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# THESIS

INTERNATIONAL STUDENTS' PERCEPTIONS
OF THE NAVAL POSTGRADUATE SCHOOL

by

José Pedro Pereira Gonçalves

December 1984

Thesis Advisor Richard A. McGonigal

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International students' perceptions of the Naval Postgraduate School (NPS) were ascertained by a survey conducted among current and former international students. A statistical analysis was conducted to evaluate the responses and to try to find those variables which "best" explain academic satisfaction and general satisfaction with NPS. A majority of the survey population are (were) satisfied with their stay at NPS and feel (felt) that their careers are going to be positively affected by their stay here. Significant departures from

the general models were noted when analyzed separately by service, rank, field of service, and geographic region.

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# International Students' Perceptions of the Naval Postgraduate School

by

José Pedro Pereira Gonçalves
Lieutenant Colonel, Portuguese Air Force
B.S., Portuguese Military Academy 1966

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

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International students' perceptions of the Naval Postgraduate School (NPS) were ascertained by a survey conducted among current and former international students. A statistical analysis was conducted to evaluate the responses and to try to find those variables which "best" explain academic satisfaction and general satisfaction with NPS. A majority of the survey population are (were) satisfied with their stay at NPS and feel (felt) that their careers are going to be positively affected by their stay here. Significant departures from the general models were noted when analyzed separately by service, rank, field of service, and geographic region.

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# I. INTRODUCTION

## A. BACKGROUND

The pursuit of learning beyond the boundaries of one's own community, nation, or culture is as old as learning itself. It stems from the human capacity for curiosity and adventure. It reflects the ability of human beings to communicate with each other at varying levels and with varying sophistication across the barriers of social particularities [Ref. 1]. It is the heterogeneity of the world that has motivated travel in this way.

At the same time, today we live in a highly interdependent world where many of the major problems we face are global in nature, and as such are not subject to solution by national action alone. We realize that no single nation has a monopoly in its educational and cultural ideas. No single nation has a monopoly on new technology. As a society it becomes important for us to learn more about the rest of the world. In all fields and at all levels we must be partners, not antagonists.

The fundamental resource of the world is people. There can be no meaningful progress in any kind of activity without developing people. And this requires education.

The United States is seen by many countries as the preferred source of scientific and technological education because it is considered a major learning center of the world. So, the international student comes here to study and learn. His[1] presence here can be seen as the government's wish to supplement domestic education with continuing

---

[1]The author uses the masculine form of the pronouns because all subjects in this study are male.

studies in a more sophisticated institution. It also can be seen as a way of opening him up, getting him out of his limited environment, and into a situation where he can, perhaps, be exposed to new stimuli, better knowledge, and new people.

World War II marked the beginning of an awareness of the cultural dimension of international relations. In fact, the international community discovered the Naval Postgraduate School (NPS) in 1952, just a few months after it had been established in Monterey. The first nation to be represented here was Ecuador, with two students. In 1953 another country, China, joined Ecuador, and by 1960 thirteen countries were represented at NPS. This number gradually increased to eighteen a decade later. Today, there are 32 nations represented at NPS with a total of 274 students.[2]

Since 1952 a total of 51 countries have had students at NPS. This international movement of students is the result of changing tides in the affairs of educational policies as well as changing opportunities. For example, international events have operated to initiate and end the participation of Cuba (1955 - 1959), Iran (1960 - 1980), and Vietnam (1957 - 1976) at the Naval Postgraduate School. On the other hand, several other countries have only recently discovered the School. Nigeria, Bahrain and Morocco are such examples.

The great diversity of geographical origins reveals the heterogeneous character of this international population. Often, the term "international students" seems to imply a single, homogeneous group. In actuality, wide differences exist in cultures and educational background within this community. Table I shows the 51 countries that, on one occasion or another, have had students at NPS. The figures

---

[2]The numbers for current participation of foreign nations are of August 1, 1984.

TABLE I

Countries that (had) have Students at NPS

| | | | |
|---|---|---|---|
| Argentina | 1967 (1) | Japan | 1956-57 (33) |
| Australia | 1974 - 12 | Korea | 1954 - 222 |
| Bahrain | 1983 - 0 | Mexico | 1981 - 1 |
| Belgium | 1959-61 (3) | Morocco | 1984 - 0 |
| Brazil | 1954 - 42 | Netherlands | 1979 - 2 |
| Burma | 1959-63 (8) | New Zealand | 1983 - 0 |
| Cambodia | 1963-75 (7) | Nigeria | 1983 - 0 |
| Canada | 1954 - 60 | Norway | 1957 - 25 |
| Ceylon | 1969-71 (3) | Pakistan | 1956 - 27 |
| Chile | 1954-77 (38) | Paraguay | 1955 (2) |
| China | 1953 - 76 | Peru | 1978 - 16 |
| Colombia | 1954 - 27 | Philippines | 1956 - 70 |
| Cuba | 1955-59 (7) | Portugal | 1965 - 34 |
| Denmark | 1971-81 (3) | Saudi Arabia | 1976 - 11 |
| Ecuador* | 1952 - 36 | Senegal | 1983 - 1 |
| Egypt | 1982 - 1 | Singapore | 1973 - 5 |
| Ethiopia | 1961-67 (20) | Spain | 1957-81 (16) |
| France | 1981 - 3 | Switzerland | 1979-81 (2) |
| Germany | 1964 - 85 | Thailand | 1954 - 74 |
| Greece | 1961 - 140 | Tunisia | 1982 - 1 |
| Haiti | 1961-62 (2) | Turkey | 1960 - 184 |
| India | 1970-80 (13) | United Kingdom | 1977 - 1 |
| Indonesia | 1954 - 116 | Uruguay | 1962-74 (5) |
| Iran | 1960-80 (78) | Venezuela | 1954 - 52 |
| Israel | 1956 - 33 | Vietnam | 1957/76 (94) |
| | | Yugoslavia | 1954 - 1 |

* First Country
The numbers represent graduates. The numbers in parentheses belong to countries that ended their representation at NPS.
The years show the start and end, when applicable, of the representation.
Source: International Education Office, NPS.

represent the number of graduates and the numbers in parentheses belong to countries that for some reason interrupted their representation here. The total number of graduates is 1,693 (1,358 belonging to countries that still have representation at NPS and 335 to countries that interrupted their representation).[3]

Some of the 32 countries that today have students at NPS have experienced long periods of interruption. Singapore, for example, did not send students to NPS from 1975 to 1983, while the United Kingdom had only one student in 1977 and Yugoslavia had one student in 1954. Table II shows the current international population and its distribution.

Looking at Table II, it can be seen that all five Continents are represented at NPS with the following distribution: Africa with five countries represents 5.8 percent of the total international population; America (excluding U.S.) with six countries and 9.5 percent; Asia with ten countries and 47.5 percent; Europe with nine countries and 35.4 percent; and Oceania with two and 1.8 percent. Asia has the biggest representation in number of countries and number of students.

One country alone (Korea) accounts for 26.6 percent of the total international population; three countries (Greece, Korea, and Turkey) for 53.6 percent; seven countries (Canada, Egypt, Greece, Indonesia, Korea, Thailand, and Turkey) for 72.3 percent, and the remaining 26 countries for only 27.7 percent.

Compared with the total population of the School--1,546--[4] the international population makes up 17.7 percent, or about one out of every five or six students.

---

[3]Source: International Education Office, NPS.

[4]This number is current as of August 1, 1984.

TABLE II

Current International Population, by Country

| | | | |
|---|---|---|---|
| Australia | 4 | New Zealand | 1 |
| Bahrain | 1 | Nigeria | 1 |
| Brazil | 7 | Norway | 2 |
| Canada | 10 | Pakistan | 6 |
| China | 5 | Peru | 4 |
| Ecuador | 1 | Philippines | 1 |
| Egypt | 12 | Portugal | 9 |
| France | 1 | Saudi Arabia | 2 |
| Germany | 7 | Senegal | 1 |
| Greece | 41 | Singapore | 6 |
| Indonesia | 17 | Thailand | 12 |
| Israel | 7 | Tunisia | 1 |
| Korea | 73 | Turkey | 33 |
| Mexico | 1 | United Kingdom | 1 |
| Morocco | 1 | Venezuela | 3 |
| Netherlands | 1 | Yugoslavia | 2 |

Source: International Education Office, NPS.
This current population is as of 1 August 1984.

B. NATURE OF THE PROBLEM

An international student in the United States has to adjust to the new life in at least four major areas: cultural, personal, educational, and social. The amount of each kind of adjustment is indicated by the degree to which the student fits into the American experience with ease and gratification.

One indication that students have adjusted to another culture is that they like and accept it.

Personal adjustment is evidenced when the international student is happy and satisfied with life and experiences here.

Educational adjustment may be indicated by the degree to which the international student is satisfied with the educational facilities here.

Social adjustment may be said to have taken place to the extent that the student associates with new companions and makes friends with them. [Ref. 2]

All these kinds of adjustment, associated with the need for proficiency in a language other than his native tongue exert a great number of problems and pressures on the international student.

Most foreign educational systems are very different from U.S. systems in organization, administration, equipment, methods of instruction, and conduct of examinations.

It might be expected that students who have difficulties resulting from language deficiencies, inadequate funds, poor housing, or the fact that they come from countries which are culturally very different from the United States, will have more trouble in making cultural and personal adjustments during their stay in this country. They will be more dissatisfied with their stay here because of the barriers interfering with their adjustment and the unhappiness or displaced hostility resulting from their frustrations. They have more to learn, their learning is more difficult and painful, and their frustrations may destroy their desire to learn. [Ref. 2]

A study period at NPS is only a small portion of the total life experience of an officer, but this episodic journey will have varying significance for each participant.

Whatever this significance, the officer's future career is going to be, in one way or another, influenced by the stay in Monterey, the curriculum, and the educational experience as a whole.

The main objective of this research is to examine:

1. The perceptions of international students regarding NPS and to what extent they can influence the future career of the international students;
2. The reactions of these officers to several aspects of the life as students in a foreign postgraduate school;
3. The utility of NPS courses to the present and future assignments of international students;
4. The overall degree of satisfaction of international students with their stay at NPS; and
5. What, if anything, might be done to further enrich programs for international officers and their hosts.

## C. IMPLICATIONS

As more and more international students come to NPS for professional and graduate education it behooves the School to examine the resources available designed to facilitate student satisfactions and achievements and plan for innovations and improvements. Moreover, individual countries must evaluate their policies regarding the students themselves while studying abroad.

The findings of this study may suggest some ideas for school authorities in setting up policies concerning international students. Furthermore, this study's descriptive analysis of international students' perceptions of NPS should provide clues for individual countries' policies. The knowledge that international students like or dislike certain aspects of the School and their life as students in

Monterey, or how they overcome or fail to deal with their problems can be, in itself, valuable information for those authorities.

## II. A NEW CULTURE

### A. CHARACTERISTICS OF CULTURE

Each quarter, international students arriving at NPS to attend a given course are characterized by their heterogeneity. Even belonging to the same field, the military, they are bound to represent different educational systems, traditions, and approaches. The basis of this heterogeneity is rooted in the very nature of "culture".

Barnouw [Ref. 3: p. 5] defines culture as "the way of life of a group of people, the configuration of all of the more or less stereotyped patterns of learned behavior which are handed down from one generation to the next through the means of language and imitation."

This concept is very useful for understanding human behavior around the world. As stated by Harris and Moran [Ref. 4], culture is not something possessed by some and not by others. Unlike good manners, culture is possessed by all human beeings and is, in that sense, a unifying factor.

As implied by the definition, culture is a communicable knowledge, learned behavioral traits that are shared by participants in a social group. A person acquires from his own society not only many of his daily habits but also many ways of thinking, ideas, likes, and dislikes.

What determines an American's, or a Greek's, or a Korean's normal desires, goals, anxieties, or values? What motivates the individual? Why does the person see things differently than others do?

Part of answer lies in language. As Hofstede [Ref. 5: p. 27] states, language is the most recognizable part of culture. It is very evidently a learned characteristic,

not an inherited one. Language is not a neutral vehicle. Our thinking is affected by the categories and words available in our language. Sapir and Whorf, cited by Hofstede [Ref. 5: p. 27] stated what has become known as the "Whorfian hypothesis." One of their formulations is that "observers are not led by the same picture of the universe, unless their linguistic backgrounds are similar or can in same way be calibrated." In fact, according to Hofstede, translators of American literature have noticed, for example, that French and other modern languages have no adequate equivalent for the English "achievement" and Japanese has no equivalent for "decision-making." And according to Fisher, [Ref. 6: p. 61] in Portuguese, the subjective meaning of "discutir" is not exactly the same as "discuss" - it has a more confrontational connotation. The Japanese equivalent of "individualistic" has a negative nuance, while in English it is positive. Continuing with Fisher, the notion of "fair play" seems to have no equivalent in any other language. In French, word and concept were adopted together as "le fer ple". In Portuguese, "jogo limpo" and in Spanish, "juego limpio" have been tried for application in sports, but they fail to transmit most of the basic thought.

According to Stewart [Ref. 7: p. 27] linguistic clarity may derive from habits of language and may represent vagueness or even ambiguity to persons outside the linguistic community. What Americans consider clear and precise uses of language, appear unclear to Britishers or foreigners who have learned English under British influence. The Americans' use of language tends to be specific to a context and frequently reflects general cultural assumptions and values. The foreigner is puzzled by the vagueness and ambiguity until he has mastered both the context and culture. Stewart gives additional indications about this

vagueness and ambiguity when he says that: "a typical phenomenon among American speakers is the selection of a general noun which lacks precision and to which is added another noun or adjective as a modifier that may be equally vague, but the combination registers precision and communicates to the American ear through the phenomenon of 'verbal dynamics' ." And then he presents some examples: "The word students sounds better as student body, and value, as value orientation. Science is often rendered as scientific method, and a book may become reading material. As can be seen from the examples, verbal dynamics include preferred general nouns. Often used are approach, behavior, development, facilities, growth, learning, and process. Preferred nouns or adjectives used as modifiers include dynamic, experimental, exploratory, personal, productive, operational, and self. Combinations from these two samples of words furnish formidable cultural norms, such as dynamic-process and self-learning. And verbal dynamics often are difficult to translate." And Fisher [Ref. 6: p. 61] adds that "when meaning is further modified by gestures, tone of voice, cadence, asides, and double-meanings which do not enter into translation, the problem is compounded."

Fisher raises another problem when English, or other language, is the second one. He writes: "When someone is speaking English as a second language, the tendency is to retain the subjective meaning of the native language--at least until experience is so accumulated that that person also thinks in the second language. Hence, there is a good chance that people will not be speaking with the same meaning even when they are speaking the same language, and most especially when that language was learned in an artificial environment such as a classroom." For example: although in English "educated" means schools and classes, academic achievement, etc., the Portuguese "educado", a

translation of educated, means this too, but it includes more the idea of a well-bred, sensitive, polite, and decent person.

Another area related to the problem of seeing things differently lies in the individual personality. Again Barnouw, defines personality as "a more or less enduring organization of forces within the individual associated with a complex of fairly consistent attitudes, values, and modes of perception which account, in part, for the individual's consistency of behavior." [Ref. 3: p. 8]

This implies that no two persons have identical personalities, but sharing the same culture leads to personality similarity in the members of a given group or society. One accepts many of the habits of his culture as part of his own nationality and this can provide a basis for predicting many probable characteristics of normal individuals in the particular society. One can predict that the normal American likes bigness, values democracy and freedom, and associates picnics with hamburgers and hot dogs and soda fountains with drug stores. This doesn't mean that Americans are carbon copies of each other or that the basic personality structure of other people exclude all of the American values. Each culture has its combination of mental customs, and most people who share in a particular culture will develop a personality pattern of that culture. [Ref. 8]

Another part of the answer to the problem of different perceptions lies in food and feeding habits. Different cultures provide different ways of sustaining the human body. The manner in which food is selected, prepared, presented, and eaten differs by culture. As Harris and Moran [Ref. 4: p. 59] say, one man's pet is another person's delicacy. Americans love beef, yet it is forbidden to Hindus, while the forbidden food in Moslem and Jewish

culture is normally pork, eaten extensively by the Chinese and others.

Feeding habits also differ, and the range goes from bare fingers and chop sticks to full sets of cutlery. Even when cultures use a utensil such as a fork, one can distinguish a European from an American by which hand holds the implement. And Kohls [Ref. 9: p. 20] goes further when he says that an orthodox Hindu from India considers it "dirty" to eat with knives, forks, and spoons instead of with his own clean fingers.

Religious traditions may also influence, either conciously or unconsciously, attitudes toward life, death, and the hereafter. Again, according to Harris and Moran [Ref. 4: p. 62], Western culture seems to be largely influenced by the Judeo-Christian-Islamic traditions, while Eastern or Oriental cultures seem to have been dominated by Buddhism, Confucianism, Taoism, and Hinduism. Religion, to a degree, expresses the philosophy of a people about important facets of life--it is influenced by culture and vice versa.

There are some more parts of the answer related to the problem of seeing things differently. For example, the sense of time differs also by culture. While some are exact, others are relative. There are also differences in the complexity of the family units in which people live and which affect their day-to-day behavior [Ref. 5]. The typical American family is nuclear (husband, wife, and children) and a rather independent unit; in other cultures, there may be extended families, or clans with grandparents, uncles, aunts, and cousins held together through the male line (patrilineal) or through the female line (matrilineal) [Ref. 4].

These general classifications are a simple model for assessing a particular culture. It does not include every

aspect of this complicated web and, because all these aspects and many others are interrelated, to change one part is to change the whole. It might also be kept in mind that no particular culture is inherently better or worse than another--just different and unique.

## B. CULTURE SHOCK

Dr. Kalvero Oberg, an antropologist cited by Harris and Moran referred to culture shock as a generalized trauma one experiences in a new and different culture because of having to learn and cope with a vast array of new cultural cues and expectations, while discovering that his old ones probably do not fit or work. More precisely, he notes:

> Culture shock is precipitated by the anxiety that results from losing all our familiar signs and symbols of social intercourse. These signs or cues may include the thousand and one ways in which we orient ourselves to the situations of daily life: how to give orders, how to make purchases, when and when not to respond. Now these cues which may be words, gestures, facial expressions, customs, or norms are acquired by all of us in the course of growing up and are as much a part of our culture, as the language we speak or the beliefs we accept. All of us depend for our peace of mind and efficiency on hundreds of these cues, most of which we are not consciously aware. [Ref. 4: p. 88]

Occasionally, all people have experienced frustration. Although related and similar in emotional content, culture shock is different from frustration. Kohls explains the difference in this way:

> While frustration is always traceable to a specific action or cause and goes away when the situation is remedied or the cause is removed, culture shock has these two distinctive features: (a) it does not result from a specific event or series of events. It comes instead from the experience of encountering ways of doing, organizing, perceiving or valuing things which are different from ours and which threaten our basic, unconscious belief that our encultured customs, assumptions, values, and behaviors are 'right'; (b) it does not stike suddenly or have a single principal cause. Instead it is cumulative. It builds up slowly, from a series of small events which are difficult to identify. [Ref. 9: p. 63]

Culture shock is neither good nor bad, necessary nor unnecessary. It is a reality that many people face when in strange and unexpected situations. [Ref. 4: p. 93] According to Kohls, culture shock comes from:

> (a) Being cut off from the cultural cues and known patterns with which we are familiar - especially the subtle, indirect ways we normally have of expressing feelings. All the nuances and shades of meaning that we understand instinctively and use to make our life comprehensible are suddenly taken from us;
>
> (b) Living and/or working over an extended period of time in a situation that is ambiguous;
>
> (c) Having our own values (which we had heretofore considered as absolutes) brought into question - which yanks our moral rug out from under us;
>
> (d) Being continually put into positions in which we are expected to function with maximum skill and speed but where the rules have not been adequately explained. [Ref. 9: p. 64]

A few examples that show how pervasive is the disorientation out of which culture shock emerges are given by Kalvero Oberg, the man who first diagnosed culture shock, and is cited by Kohls:

> These signs and clues include the thousand and one ways in which we orient ourselves to the situations of daily life: when to shake hands and what to say when we meet people, when and how to give tips, how to give orders to servants, how to make purchases, when to accept and when to refuse invitations, when to take statements seriously and when not.... [Ref. 9: p. 64]

But, according to Harris and Moran, we are born with the ability to learn, to adapt, to survive, to enjoy. After all, human beings do create culture, so the shocks caused by such differences are not unbearable or without value. The intercultural experience can be most satisfying, contributing much to personal and professional advancement. One can discover neighbors everywhere, and develop friends in the world community. [Ref. 4: p. 93]

C. ADJUSTMENT

Richard McKeon, in a study done for UNESCO observes that "man is a social animal, adapting himself to a natural and human environment by forming habits; he is a political animal, ruling and being ruled; he is a human animal, creating and appreciating values." He points out as well that "the adjustments and problems are not determined by their biological adaptation alone, and the individual characteristics of men result from their nature, training, and education in the groups in which they participate." [Ref. 10: p. 23]

Kohls presents the following stages of personal adjustment which virtually everyone who lived abroad went through:

1. Initial Euphoria - Most people begin their new assignment with great expectations and a positive mindset. If anything, they come with expectations which are too high and attitudes that are too positive toward the host country and toward their own perspective experiences in it. At this point, anything new is intriguing and exciting. But, for the most part, it is the similarities which stand out. The recent arrivee is usually impressed with how people everywhere are really very much alike.
This period of euphoria may last from a week or two to a month, but the letdown is inevitable. We've reached the end of the first stage.

2. Irritation and Hostility - Gradually, the individual's foccus turns from the similarities to the differences. And these differences, which suddenly seem to be everywhere, are troubling. He blows up a little, seemingly insignificant difficulties into major catastrophies. This is the stage generally identified as "cultural shock".

3. Gradual Adjustment - The crisis is over and the individual is on his way to recovery. This step may come so gradually that, at first, he will be unware it's even happening. Once he begins to orient himself and to be able to interpret some of the subtle cultural clues which passed by unnoticed earlier, the culture seems more familiar. He becomes more comfortable in it and feels less isolated from it.
Gradually, too, his sense of humor returns and he realizes the situation is not hopeless at all.
It should be noted that some are so deeply involved in cultural shock that they become ill. Some manifest psychological reactions, e.g., conversion hysteria and have to be sent home.

4. Adaptation and Biculturalism - Full recovery will result in an ability to function in two cultures with confidence. He will even find there are a great many customs, ways of doing and saying things and personal

> attitudes which he enjoys - indeed, to which he has in some degree accultured, and he'll miss them when he packs up and returns home. (Here another problem can happen, that of "reverse cultural shock" upon his return to his country. In some cases, particularly where a person has adjusted exceptionally well to the host country, reverse culture shock may cause greater distress than the original culture shock). [Ref. 9: p. 66]

The problem of biculturalism is treated in an interesting way by Nieuwenhuijze. He writes:

> In an international education project neither teachers nor students are fully typical of the culture pattern from which they come, and this for more than one reason. First, there are too many diversities within each pattern to make any adequate representation possible. Secondly, no culture pattern is fully consistent in time. Culture patterns represented in cross-cultural encounters certainly get their share of the process of rapid overall change. So, in my capacity as representative of my culture pattern, I always tend to be somewhat behind actual developments. The coordinates within which my latitude of individual action should be defined are themselves on the move. In the third place, many persons participating in cross-cultural encounters embody within themselves quite a few of the contrasts between the different culture patterns involved in the encounter. As it is usually put, they live in two worlds, or on the border between two worlds. [Ref. 11: p. 52]

After this overview of some literature about "culture", it is obvious that because the new culture is different from the home culture, the barriers present in the new culture are regarded as the principal causes of the difficulties faced by an international student in the United States. The entry into a U.S. educational institution is a difficult transition for people arriving from distinctly different cultures with different educational systems. If we add to this the problem of language, it is easy to understand how the new situation may produce anxiety in the international student, and, this, while under strong pressure to succeed academically.

## III. METHODOLOGY

### A. OBJECTIVE AND DESIGN OF THE SURVEY

In order to meet the objectives of this study, it was necessary to collect statistically representative data. This was accomplished by conducting a survey among the current and previous population of international students at NPS.

The survey was designed to be administered in two questionnaire variants.

The first version was oriented toward providing comprehensive information about several aspects of the current student's life. This questionnaire is called Questionnaire A (Students). The second version was oriented more toward providing comprehensive information about the post-School life. This questionnaire is called Questionnaire B (Graduates).

### B. SAMPLING STRATEGY

#### 1. Population

The population for this study was considered to be of indeterminable size. It includes all international students who had entered the graduate courses of NPS in the past or who will enter NPS in the future. However, and because one thing is seeing the school as a current student, experiencing the natural problems and pressures of the student's life and another is seeing the school as a past experience which may be very different, this population was divided into two subpopulations. One intends to represent the current student's life, the way one actually sees the

TABLE III

Sample of Current Students, by Country

| | | | |
|---|---|---|---|
| Australia | 4 | New Zeland | 1 |
| Barahain | 1 | Nigeria | 1 |
| Brazil | 7 | Norway | 2 |
| Canada | 9 | Pakistan | 6 |
| China | 5 | Philippines | 1 |
| Ecuador | 1 | Peru | 3 |
| Egypt | 12 | Portugal | 8 |
| France | 1 | Saudi Arabia | 2 |
| Germany | 7 | Senegal | 1 |
| Greece | 34 | Singapore | 6 |
| Indonesia | 15 | Thailand | 11 |
| Israel | 4 | Tunisia | 1 |
| Korea | 62 | Turkey | 33 |
| Mexico | 1 | United Kingdom | 1 |
| Morocco | 1 | Venezuela | 3 |
| Netherlands | 1 | Yugoslavia | 2 |
| | | TOTAL..... | 247 |

school. The other represents the graduate (past) and the way he sees his past experience.

2. Sample

a. Current Students

The local sample for the survey of current students is shown in Table III. The sample includes 247 international students representing 32 countries. It was recognized that, for this survey, students who were in their

first quarter would be excluded from the sample because their knowledge of the school might be insufficient for proper participation in this study. However, they were assumed to be similar in characteristics, experiences, and orientations to those included in the survey sample. Figures 3.1, 3.2, and 3.3 show the profile of this sample. Figure 3.1 shows the distribution by rank, Figure 3.2 by field of study, and Figure 3.3 by geographic region.

b. Graduates

As shown in Table IV, the sample of NPS graduates includes 350 officers representing 29 countries. The criterion established for this survey was a minimum of six months and a maximum of ten years from the graduation date. It was considered that less than six months was not enough time to form a good perception of the job, and it would be very difficult to contact those who had graduated more than ten years ago. Within this criterion the sampling strategy was the readability of the addresses. Because the addresses are handwritten by the students themselves, many of them are simply unreadable. Figures 3.4, 3.5, and 3.6 show the profile of this sample. Figure 3.4 shows the distribution by rank, Figure 3.5 by field of study, and Figure 3.6 by geographic region.

Turkey seems to be the only country with a policy in selecting officers to attend courses at NPS. From its officers, 81.8 percent are O2s[5] and Turkey alone

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[5]O2 is equivalent to a Lieutenant Junior Grade in the American Navy or First Lieutenant in the American Army, Marine Corps, or Air Force. O3 is equivalent to a Lieutenant in the American Navy or Captain in the American Army, Marine Corps, or Air Force. O4 is equivalent to a Lieutenant Commander in the American Navy or Major in the American Army, Marine Corps, or Air Force. O5 is equivalent to a Commander in the American Navy or Lieutenant Colonel in the American Army, Marine Corps, or Air Force. O6 is equivalent to a Captain in the American Navy or Colonel in the American Army, Marine Corps, or Air Force.

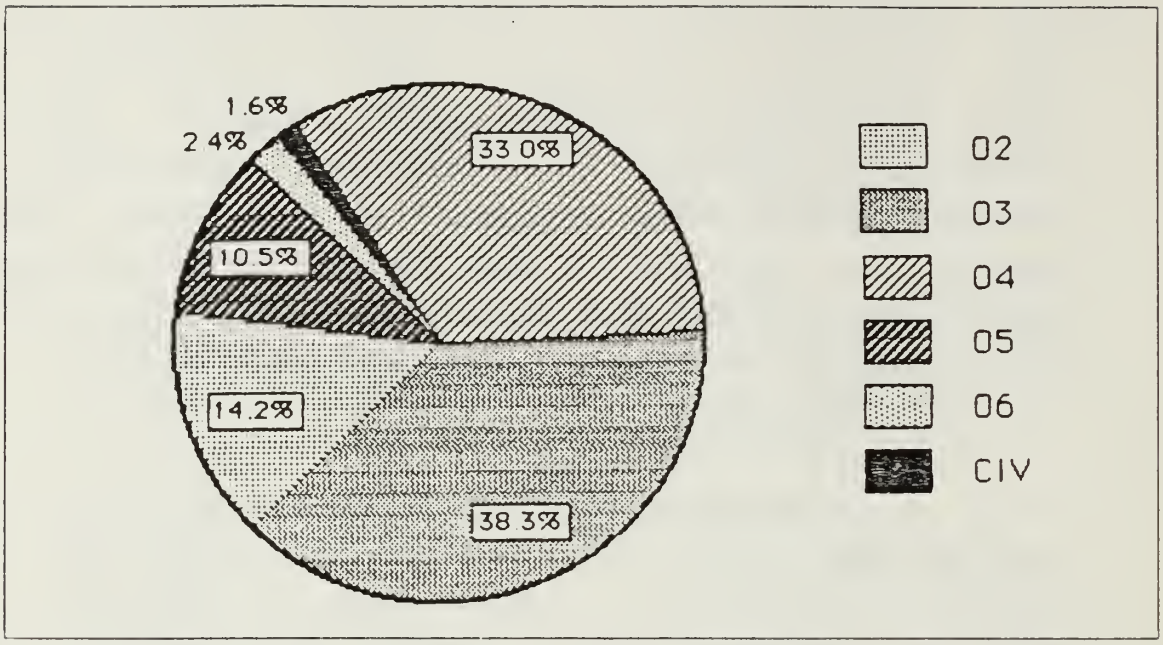


Figure 3.1 Sample of Students, by Rank.

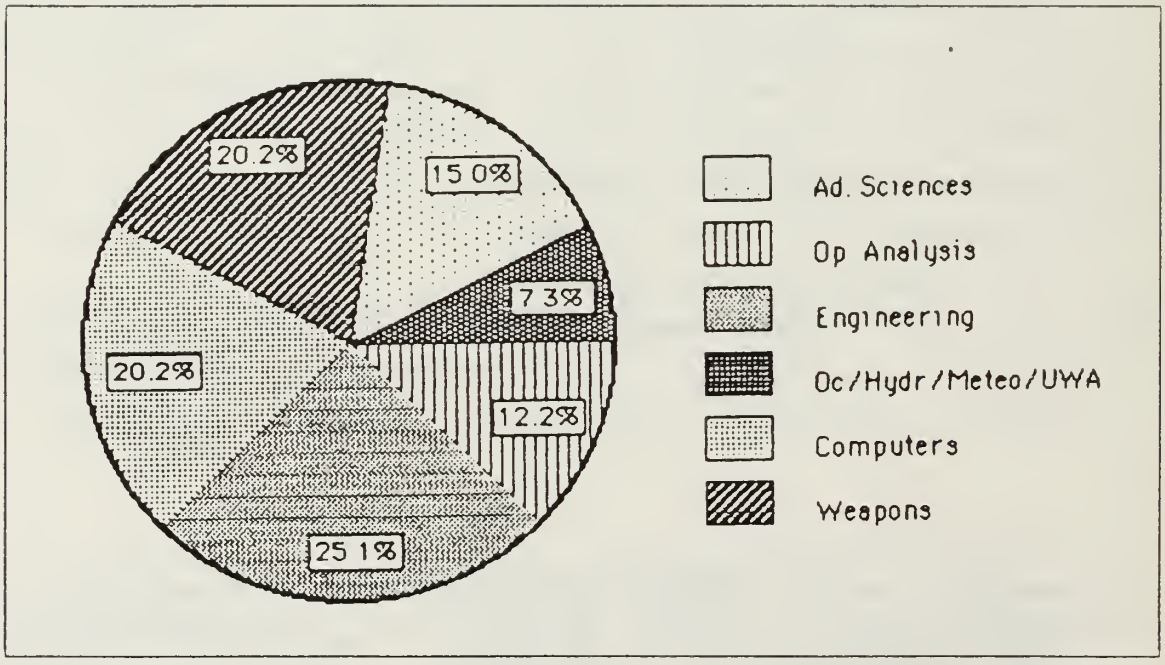


Figure 3.2 Sample of Students, by Field of Study.

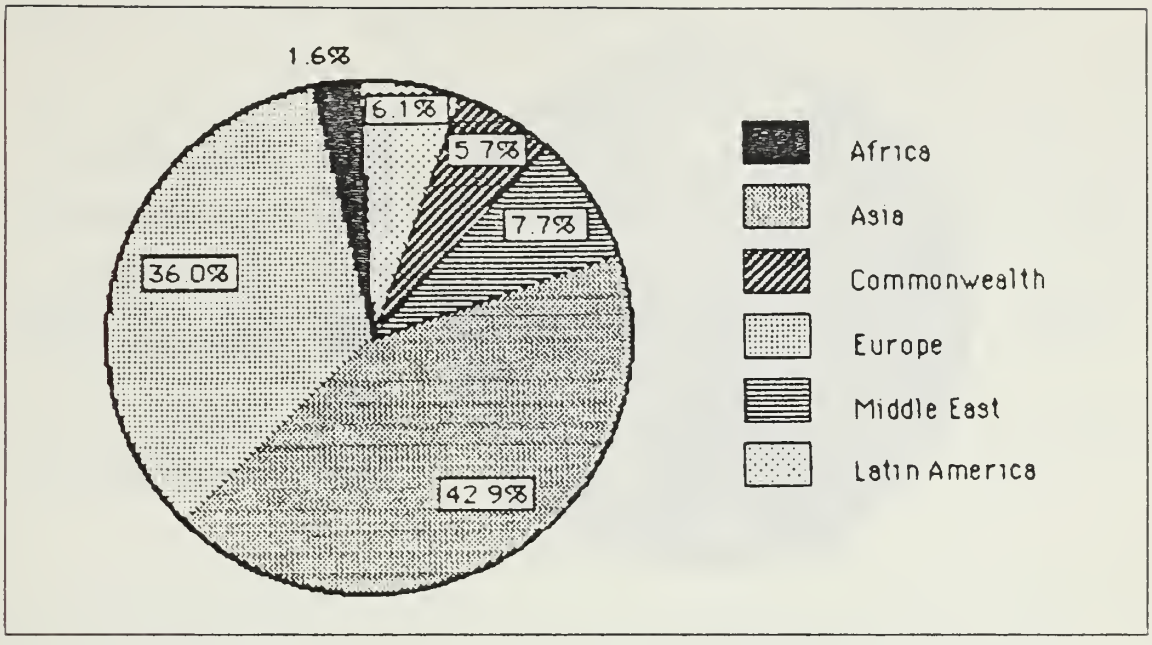


Figure 3.3 Sample of Students, by Geographic Region.

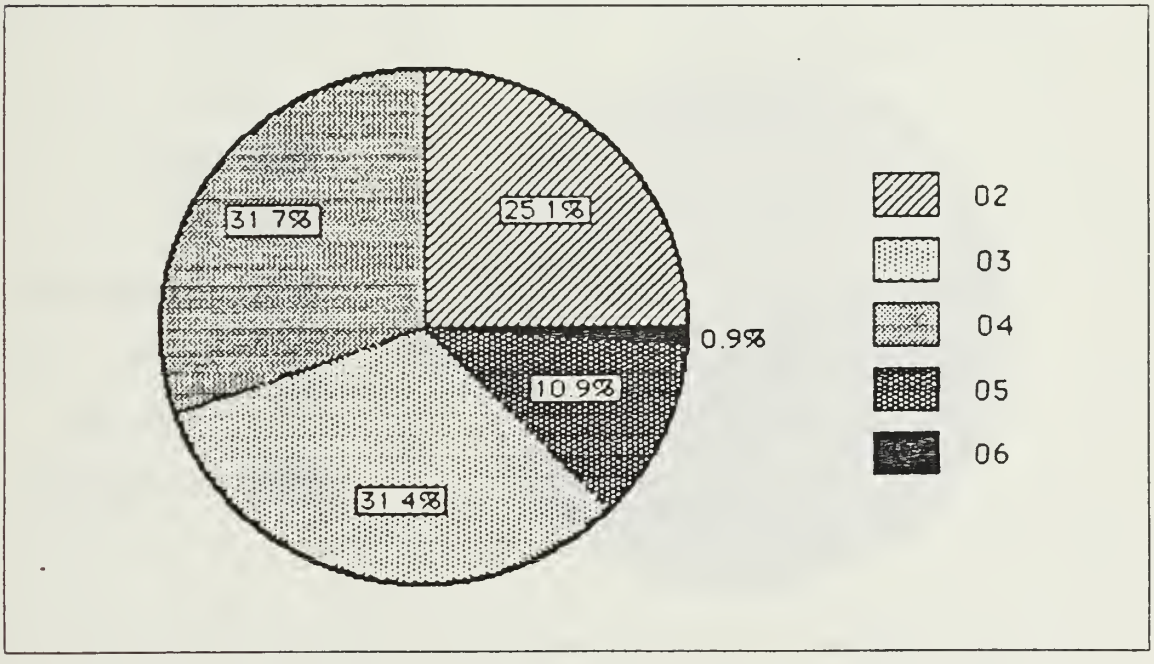


Figure 3.4 Sample of Graduates, by Rank.

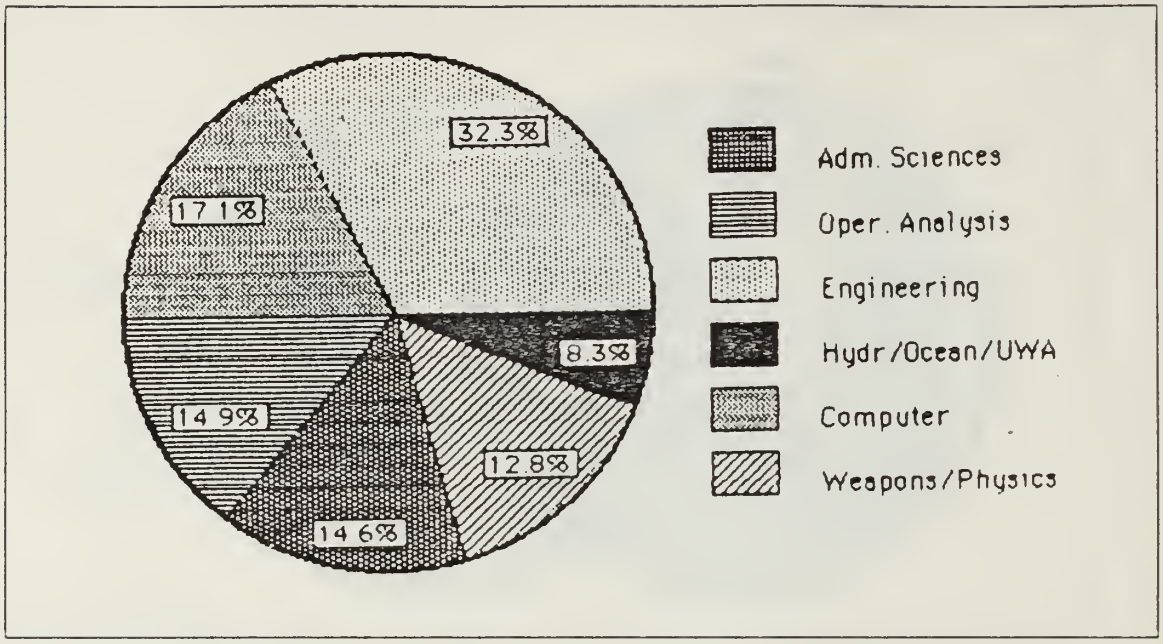


Figure 3.5 Sample of Graduates, by Field of Study.

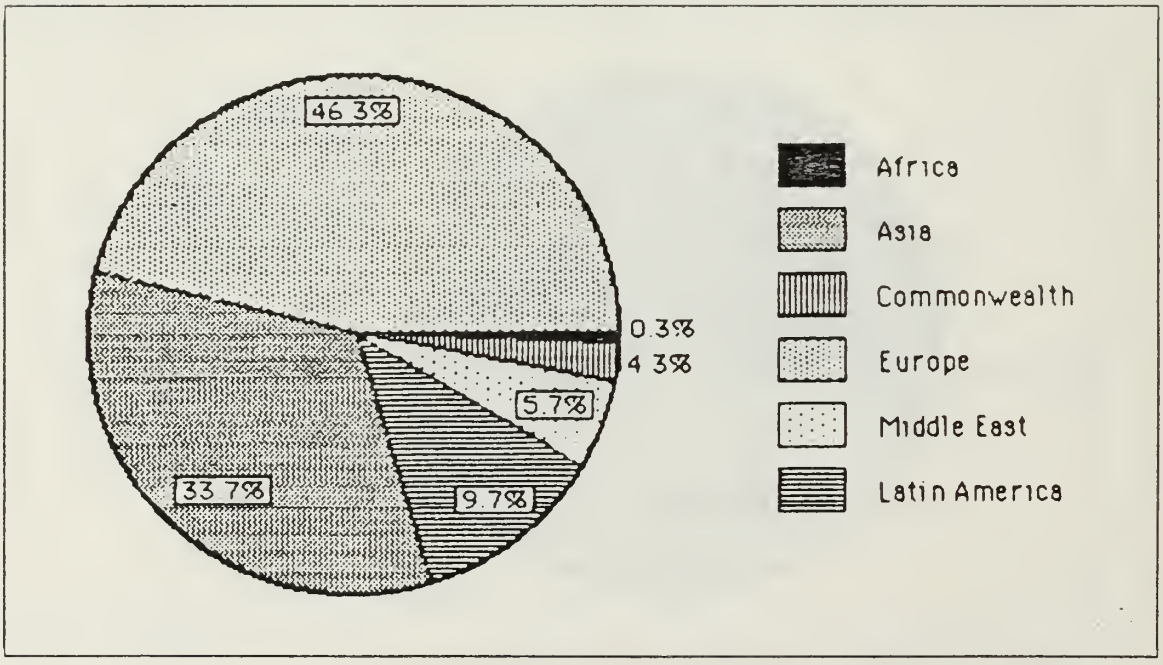


Figure 3.6 Sample of Graduates, by Geographic Region.

accounts for 77.2 percent of the O2s of all sample. From Turkey's graduates sample 79.7 percent are also O2s (at the time they were at NPS) and it accounts for 53.4 percent of the O2s of all sample. The other countries do not seem to have a determined policy, although there are a predominance of O3s and O4s, which account for 71.3 percent in the students' sample and 63.1 percent in the graduates' sample.

TABLE IV

Sample of Graduates, by Country

| | | | |
|---|---|---|---|
| Australia | 6 | Netherlands | 2 |
| Brazil | 5 | Norway | 11 |
| Canada | 9 | Pakistan | 1 |
| China | 7 | Philippines | 1 |
| Colombia | 3 | Portugal | 10 |
| Denmark | 1 | Peru | 13 |
| Ecuador | 3 | Saudi Arabia | 3 |
| France | 3 | Spain | 3 |
| Germany | 17 | Switzerland | 1 |
| Greece | 55 | Malaysia | 1 |
| India | 8 | Thailand | 15 |
| Indonesia | 39 | Tunisia | 1 |
| Israel | 17 | Turkey | 59 |
| Japan | 1 | Venezuela | 10 |
| Korea | 45 | TOTAL.....350 | |

## C. DESIGN OF THE QUESTIONNAIRES

The questionnaires were designed for use primarily with the Statistical Analysis System (SAS) and in order to contain a manageable quantity of data. After a careful review of draft items, the questionnaires were pretested. The purpose of the pretest, carried out with the collaboration of ten students of different nationalities, was to determine which questions hit sensitive areas, were difficult to answer, or presented language problems. The feedback obtained was very useful for the last version.

Questionnaires A were sent to their recipients through the Student Mail Center (SMC), and questionnaires B by Air Mail. Cover letters explaining the purpose of the survey accompanied both questionnaires. Copies of these letters are presented in Appendix A.

The main areas addressed in survey A were: academic satisfaction, career opportunities, financial support, language proficiency, housing, interpersonal relations, perceived accorded personal status, living in a new culture, and general satisfaction with NPS. The main areas in survey B were: post-school job experiences, financial support, language proficiency, academic satisfaction, living in a new culture, and general satisfaction with NPS.

### 1. Questionnaire A (Students)

The questionnaire in the version sent to current students is shown below.

1. Academically, have you been satisfied with your experience here? Circle one number on the line below.

| Very Satisfied | | | | Very Dissatisfied |
|---|---|---|---|---|
| 1.....2 | .....3 | .....4 | .....5 | |

2. More specifically, how satisfied or dissatisfied have you been with the material covered in courses taken?

Very Satisfied 1.....2.....3.....4.....5 Very Dissatisfied

3. How satisfied or dissatisfied have you been with School requirements (papers, exams, projects, thesis, etc.)?

Very Satisfied 1.....2.....3.....4.....5 Very Dissatisfied

4. Generally speaking, how do you rate the professors?

Outstanding 1.....2.....3.....4.....5 Poor

5. In general, how do you rate your student-professor relationships? Circle one number.

Formal.....1 Somewhat informal.3
Somewhat informal.2 Informal.....4

6. For those who have completed at least four quarters: please name the 3 most useful and the 3 least useful courses that you attended here

| Most useful | Least useful |
|---|---|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

____ Does not apply. I have attended less than four quarters.

7. After your return to your country, how much and in what way do you think your career opportunities will be affected by your stay at NPS?

Very much to my advantage — Very much to my disadvant.

1.....2.....3.....4.....5

Please explain _____

_____

_____

8. How adequate is the amount of your financial resources here? Circle one number.

Very adequate.....1 Fairly inadequate..3
Fairly adequate....2 Very inadequate....4

9. To what extent do you feel your financial resources influence your studies?

To no extent — To a great ext.

1.....2.....3.....4.....5

10. Please rate your own ability in:

| | Very easy | | | | Very hard |
|---|---|---|---|---|---|
| Speaking English..... | 1 | 2 | 3 | 4 | 5 |
| Listening to English. | 1 | 2 | 3 | 4 | 5 |
| Writing in English... | 1 | 2 | 3 | 4 | 5 |
| Reading in English... | 1 | 2 | 3 | 4 | 5 |

11. To what extent did these language skills affect your studies?

To no extent — To a great ext.

1.....2.....3.....4.....5

12. How satisfied or dissatisfied are you with your present housing arrangement?

| Very Satisfied | | | | Very Dissatisfied |
|---|---|---|---|---|
| 1.....2.....3.....4.....5 | | | | |

13. Do you feel that the School helped you enough to find housing when you arrived here?

Yes.....1 No.....2

14. During your stay in the U.S., approximately what percentage of your free time have you spent (other than with your family) in the company of U.S. nationals?_____%

15. And what percentage of your free time have you spent in the company of people of your own nationality?_____%

16. And what percentage of your free time have you spent in the company of people other than U.S. nationals or people of your own nationality?_____%

17. As of now, where do you think that your U.S. fellow students and friends would place you with respect to these characteristics: Maturity, Academic Performance, Intelligence, Personality, Background? Using the following scale:
Among the highest..1 Fairly high..2 Fairly low..3 Among the lowest..4
circle the appropriate number for each characteristic.

| | Among the highest | | | Among the lowest |
|---|---|---|---|---|
| Maturity..... | 1.....2.....3.....4 | | | |
| Academic Performance.. | 1.....2.....3.....4 | | | |
| Personality..... | 1.....2.....3.....4 | | | |
| Background..... | 1.....2.....3.....4 | | | |

18. Rank in order of difficulty the following aspects of living in Monterey: (Place a number next to each. with 1 being the most difficult, 2 being the next most difficult, and so on.)

| | |
|---|---|
| _____Food | _____Finding housing |
| _____Housing | _____Finding friends |
| _____Time for family | _____Finding religious service |
| _____Time for study | _____Traffic regulations |
| _____Spoken English | _____Medical care |
| _____Other (Please specify)_____ | |

Related to questions 19, 20, and 21 remember that information will be released only in the form of statistical summaries or in a form which does not identify information about any particular person. If you feel threatened don't answer them. I am more interested in your information than in your identity.

19. What is your home country?_____

20. What is your service? Check one.
Army_____ Navy_____ Air Force_____ Other_____
Your rank_____

21. What is your field of study?_____

22. Now, considering all things together, how do you rate your general satisfaction with NPS? Circle the number that best shows your opinion.

Very Satisfied 1.....2.....3.....4.....5 Very Dissatisfied

23. Additional comments. (Please feel free to make any personal comments about your experience).

a. Academic Satisfaction

This special aspect of satisfaction, as an index of educational adjustment, has particular relevance for the international student whose main objectives and concentration of time and effort are in the area of academic achievement.

Students were asked about general academic satisfaction, material covered in courses taken, school requirements, and satisfaction with professors. They were also urged to list the most useful and least useful courses that they attended.

This was done with questions number 1 (satisfaction with academic experience), 2 (satisfaction with material covered in courses taken), 3 (satisfaction with school requirements), 4 (satisfaction with professors), 5 (student-professor relationships), and 6 (the 3 most useful and the 3 least useful courses attended).

For questions 1, 2, and 3, a five-point rating was used with one being equal to "very satisfied" and five equal to "very dissatisfied." For question 4, a five-point rating was also used, with a range from "outstanding" as one to "poor" equaling five. Question 5 used a four-point rating with one being equal to "formal", two equal to "somewhat formal",three equal to "somewhat informal", and four equal to "informal."

b. Career Opportunities

The international student comes to NPS to study and learn. Because he comes to learn those things which are not available in his country he will take back knowledge and abilities that his peers do not have. To what extent can this influence his future career? This perception was measured by asking the student his personal feelings through

question number 7: "After your return to your country, how much and in what way do you think your career opportunities will be affected by your stay at NPS?" Students were also urged to explain their responses. A five-point answer scale was used ranging from "very much to my advantage" equals one to "very much to my disadvantage" equals five.

c. Financial Support

When an international student does not do well academically, it may be due, apart from other factors, to personal problems which prevent the student from concentrating on studies. Money worries can be one of the personal problems. Common sense might tell us that if the student experiences serious financial problems in a way that may affect his and his family's situation his studies can be seriously influenced.

This was measured with question number 8 asking the student the adequacy of his financial resources using a four-point scale: "very adequate" equals one, "fairly adequate" equals two, "fairly inadequate" equals three, and "very inadequate" equals four.

Question number 9 was designed for the student expressing the way he felt financial problems could affect his studies. A five-point scale was used with one equal to "to no extent" and five equal to "to a great extent."

d. Language Proficiency

English proficiency is, by far, the most important problem for an international student whose native tongue is not English. English proficiency is strongly related not only with the academic work but also with the life in the United States.

It is hardly an exaggeration to say that during the international student's sojourn in the United States,

everything hinges on his ability to communicate adequately -- with his teachers, his books, his fellow students, and his associates in daily life. Most of what he learns must be filtered through a communication process, and good communication provides the setting in which other problems of adjustment are most easily solved, while blocked or distorted communication can give rise to a vicious spiral of other personal difficulties. [Ref. 12]

The skill in communication was measured with question 10 that asks the student to rate in a five-point answer scale--from "very easy" equals one to"very hard" equals five-- his ability in speaking, listening, writing, and reading English.

Question 11 was designed for the student expressing the way he felt language problems could affect his studies using a five-point scale with "to no extent" equals one and "to a great extent" equals five.

e. Housing

Undoubtedly, personal housing arrangements are an important factor in the general satisfaction with the stay at NPS. After traveling, often thousands of miles, arriving with the family to a totally strange place one's first problem to solve is housing. The problems associated with the international student housing are many. The most important are: rental prices, contracts, children, and location.

Question number 12 asked the student to express his satisfaction with present housing arrangements. A five-point scale was used ranging from one equals "very satisfied" to five equals "very dissatisfied."

Question 13 asked the student whether or not the school helped him enough to find housing when he arrived here. The options given were "yes" or "no."

f. Interpersonal Relations

In general, interpersonal relations have a great influence on adjustment to a foreign culture.

The patterns of interpersonal relations can be assumed to influence basically the nature and direction of the satisfactions or deprivations an individual feels when he is transplanted not merely among strangers but also among strangers whose patterns of relationship may be different from his own [Ref. 1].

It was felt that a frequent and close association of the international student with fellow Americans should lead to a more adequate and rapid adjustment to the educational experience at NPS.

To find out with whom international students spend their free time, a question was posed concerning the percentage of time spent by the students with U.S. nationals (question number 14), with people of their own nationality (question 15), and with people other than U.S. nationals or of their own nationality (question 16).

g. Perceived Accorded Personal Status

The international student who comes to America will suffer severe status changes which will affect his self-image. These changes will be important in determining the way and the degree to which the student adjusts to his American experience. On the other hand, the student may increase the importance of nationality in his self-image because he feels that, in a way, he is a representative of his country while here. This must be for a variety of reasons: gratitude from his government for being chosen to come here, a sense of responsibility for getting special training which he can apply to his country's betterment when he returns, or the fact that he is alone among strangers who

are ignorant of his country and to whom he must give a favorable or at least a fair picture of his homeland. [Ref. 2]

It was considered important to know how international students think their U.S. fellow students and friends may view them with respect to several characteristics: Maturity, Academic Performance, Intelligence, Personality, and Background. This was done with question number 17, using a four-point scale with one equals "among the highest", two equals "fairly high", three equals "fairly low", and four equals "among the lowest."

Of course, it would be necessary to ask Americans about their opinions of the international students in order to obtain the actual accorded status, but this is beyond the scope of the present study.

h. Living in a New Culture

Generally speaking, a student's life is not easy. If the student is in a foreign nation, it is even more difficult.

The adjustment to another country and culture, a new society and customs, in short to a new way of life, may bring some additional problems. Of course, adjustment does not require 100 percent absorption. The international student should not attempt complete assimilation, which is neither possible nor desirable. He should maintain loyalty to his own culture and accept from the new culture what seems relevant to him [Ref. 13]. But one's sojourn in Monterey, which can range from 18 to 30 months or even more, means eating a different kind of food, living with other kinds of people, and traveling on other kinds of streets with other kinds of regulations. He has to study and he may have to care for a family. Has he enough time for both? Situations that he encounters here will have varying

importance to his adjustment and to his life but he must, to some extent, conform to the norms of the host culture.

Question 18 asked the student to rank, in order of difficulty, some aspects of living in Monterey: food, housing, time for family, time for study, spoken English, finding housing, finding friends, finding religious service, traffic regulations, medical care, and others.

i. General Satisfaction with NPS

Fundamental to achievement of the educational ambitions of international students is personal as well as academic satisfaction. High academic satisfaction probably leads, or contributes, to general satisfaction, but there are many other influencing factors. Overall satisfaction is the sum of all these items and probably others not specified in this survey.

Question 22, using a five-point answer scale ranging from "very satisfied" equals one to "very dissatisfied" equals five, asked the student to express his general satisfaction with NPS and, implicitly, with his stay in the United States.

2. Questionnaire B (Graduates)

The questionnaire in the version sent to graduates is shown below.

1. How much can you use what you learned at NPS in your present job? Circle one number on the line below.

To a great ext. To no extent

1.....2.....3.....4.....5

2. How receptive are (were) your peers and superiors to the adoption of innovations suggested by you on the basis of your NPS experience? Circle one number for peers and another for superiors.

| Peers | Superiors |
|---|---|
| Very receptive....1 | Very receptive....1 |
| Fairly receptive..2 | Fairly receptive..2 |
| Not receptive.....3 | Not receptive.....3 |
| Not applicable....4 | Not applicable....4 |

3. Have you, in fact, suggested any innovations? Below are some examples regarding the kind of innovations that may have been suggested by you. Check those that apply.

| | |
|---|---|
| _____Technical innovations | _____Curricula innovations |
| _____Organization of work | _____Administrative procedures |
| _____Computer system | _____Introduction of modern research methods |

_____Others (specify)_____

4. Have you made any <u>other</u> efforts to transmit your NPS experience to your subordinates, peers, or superiors? If so, what kind of efforts? Check those that apply.

| | |
|---|---|
| _____Official reports | _____Lectures/seminars |
| _____In-service training | _____Informal conversations |
| _____Others (specify) | _____Not applicable |

---

5. How would you, on the whole, assess the effect of all these efforts? Circle the appropriate number.

| | |
|---|---|
| Great.....1 | No effect at all...4 |
| Medium.....2 | Don't know.....5 |
| Little.....3 | Not applicable.....6 |

6. In light of all your experiences, how much and in what way has your career been affected by your stay at NPS? Circle one number.

Very much to my advantage — Very much to my disadvant.

1.....2.....3.....4.....5

Please explain_____

_____

7. Did you, at the time you were selected to come to NPS, have a free choice in selecting the curriculum?

Yes....1 No.....2

8. If it had been possible, would you have chosen the same curriculum?

Yes....1 No.....2

9. How adequate was the amount of your financial resources when you were a student at NPS? Circle one number.

Very adequate.....1 Fairly inadequate..3
Fairly adequate....2 Very inadequate....4

10. To what extent do you feel your financial resources could have influenced your studies?

To no extent — To a great ext.

1.....2.....3.....4.....5

11. Please rate your ability in:

| | Very easy | | | Very hard |
|---|---|---|---|---|
| Speaking English..... | 1 | 2 | 3 | 4 |
| Listening to English. | 1 | 2 | 3 | 4 |
| Writing in English... | 1 | 2 | 3 | 4 |
| Reading in English... | 1 | 2 | 3 | 4 |

12. To what extent did these language skills affect your studies when at NPS?

To no extent To a great ext.

1.....2.....3.....4.....5

13. Academically, how satisfied or dissatisfied are you with your experiences at NPS? Circle one number.

Very Very

Satisfied Dissatisfied

1.....2.....3.....4.....5

14. Please name the 3 most useful and the 3 least useful courses that you attended at NPS.

| Most useful | Least useful |
|---|---|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

15. Do you still have contacts with NPS? With whom? Check those that apply.

_____Professors _____Colleagues from School

_____People outside School _____Fellow-countrymen abroad

_____Others (specify)_____

16. What did you especially enjoy about living in Monterey?

_____

_____

_____

17. What problems did you face about living in Monterey?

_____

_____

_____

18. What is your major field of study?_____

19. What is your home country?_____

20. What is your service? Check one.
Army_____ Navy_____ Air Force_____ Other_____
Your rank_____

21. Considering all things, how do you rate your general satisfaction with NPS? Circle the number that best shows how you feel.

| Very Satisfied | | | | Very Dissatisfied |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

22. Additional comments. (Please feel free to make any personal comments).

The areas related with academic satisfaction, career opportunities, financial support, language proficiency, and general satisfaction with NPS, are similar to those of questionnaire A. The questions related with living in a new culture and interpersonal relations were formulated in another way, but the great difference was the inclusion of an area that can be called post-NPS job experiences.

a. Post-NPS Job Experiences

The international student comes to NPS to get the type of training that will enhance his professional knowledge. Foreign countries choose the United States as a place to study because they believe the American approach to education is practical. But mainly in technical fields the contrast between what one learns at NPS and what one can use immediatly at home may be great.

Is it true that when the student returns home the knowledge he acquired here has much to do with the immediate problems with which he must deal?

This was measured with questions number 1, 2, 3, 4, and 5. Using a five-point answer scale with "to a great extent" equals one and "to no extent" equals five, question 1 asked the graduate to rate the amount of what he learned at NPS that he considers currently useful in his job.

Question number 2 asked the receptiveness of peers and superiors to the adoption of innovations eventually suggested by the graduate on the basis of his NPS experiences. Four options were available: "very receptive" equals one, "fairly receptive" equals two, "not receptive" equals three, and "not applicable" equals four.

Questions 3 and 4 asked the graduate to indicate the kind of innovations that he may have suggested and the efforts that he may have made to transmit his NPS experiences to his subordinates, peers, and superiors. Some examples regarding the kind of innovations are: technical innovations, organization of work, computer system, curricula innovations, administrative procedures, introduction of modern research methods, and others. The kind of efforts include: official reports, in-service training, lectures/seminars, informal conversations, and others.

Finally, question 5 asked the graduate to assess the effect of these efforts: "great" equals one, "medium" equals two, "little" equals three, "no effect at all" equals four, "don't know" equals five, and "not applicable" equals six.

b. Interpersonal Relations

The peculiarity of the life on campus in a small and quiet town may operate to build special ties of friendship. The experiences and contacts with the American and

other international students, with professors, and relationships with the community can be among the international student's most cherished NPS experiences.

Question 15 asked the graduate if he still had contacts with individuals at NPS and, if so, with whom.

c. Living in a New Culture

The intention of this area is about the same of that of questionnaire A. But the questions were formulated in another way. While question 18 of questionnaire A asked the student to rank in order of difficulty some aspects of living in Monterey, question 16 of questionnaire B asked the graduate to specify what he especially enjoyed and question 17 addressed the problems that may have been faced while living in Monterey.

D. CODING FOR PROCESSING PURPOSES

Each question was given a variable name. In establishing names, the questionnaire item number has been retained with the letters "A" for questionnaire A (Students), and "B" for questionnaire B (Graduates) as prefixes. For exemple, question 1 from questionnaire A was coded A1, question 2, A2, and so on. Unnumbered sub-items of a questionnaire item have been assigned the numeric question number followed by an alpha character. For example, question 10 in questionnaire A has four sub-items: speaking, listening, writing, and reading English. Speaking English would be A10A, listening to English A10B, and so on. Question A18 and questions B3, B4, and B15 were subdivided in several questions. Question A18 was subdivided into three: A18A for the most difficult, A18B for the second most difficult, and A18C for the third most difficult. Questions B3, B4, and B15 were subdivided in the same number

of sub-items, and the codification used was 1 if responded and 2 if not responded. A question was added in both questionnaires representing the geographical region (Africa, Asia, Commonwealth, Latin America, and Middle East).

A sampling unit identifier was marked on each questionnaire that was returned. These identifiers began in A001 until the last questionnaire A and in B001 until the last questionnaire B. At this stage, the questionnaires were carefully reviewed to make sure that they were usable.

## IV. RESULTS AND DISCUSSION

### A. RESPONSE RATES

The survey, in its two questionnaire variants, was administered in early August 1984. The data collection of the students' survey (A) was completed in late August, and of the graduates' survey (B) in late September 1984. Tables V and VI show the number of responded questionnaires compared with the number of sent questionnaires in parentheses.

It was assumed that, no matter how complete or carefully worded the actual questions were, success in securing the cooperation of the recipients would depend upon the degree to which they were informed about the purpose and convinced of the worth of the study. Even though this was relatively well explained in the cover letters, a follow-up letter was used in the students' survey. A few days before the due date, a reminder was sent to these students. A total of 128 students responded to the questionnaires resulting in a rate of response of 51.8 percent. One of these questionnaires was unusable.

A major problem with the graduates' survey, besides the possible obsolescence of some addresses, was with the return of the survey. Since it was sent to 29 countries, it was impossible to find a good way of stamping the return envelopes. The only way of solving the problem was to appeal to the kindness and sense of cooperation of those graduates in order to stamp the envelopes by themselves. It is impossible to determine the extent to which this may have influenced the rate of response; however, it is still felt that the obsolescence of the former students' addresses had

TABLE V

Students' Rate of Response

| | Sent | Ret. | | Sent | Ret. |
|---|---|---|---|---|---|
| Australia | (4) | 2 | New Zealand | (1) | 1 |
| Baharain | (1) | 1 | Nigeria | (1) | 0 |
| Brazil | (7) | 3 | Norway | (2) | 2 |
| Canada | (9) | 6 | Pakistan | (6) | 1 |
| China | (5) | 4 | Peru | (3) | 0 |
| Ecuador | (1) | 0 | Philippines | (1) | 0 |
| Egypt | (12) | 4 | Portugal | (8) | 7 |
| France | (1) | 1 | Saudi Arabia | (2) | 1 |
| Germany | (7) | 5 | Senegal | (1) | 0 |
| Greece | (34) | 13 | Singapore | (6) | 0 |
| Indonesia | (15) | 5 | Thailand | (11) | 9 |
| Israel | (4) | 2 | Tunisia | (1) | 1 |
| Korea | (62) | 23 | Turkey | (33) | 11 |
| Mexico | (1) | 1 | United Kingdom | (1) | 0 |
| Morocco | (1) | 1 | Venezuela | (3) | 0 |
| Netherlands | (1) | 1 | Yugoslavia | (2) | 2 |
| Without mention the Country | | | | | 21 |

128 (Returned)÷247 (Sent)=51.8% Response rate

the greatest influence on the rate of response by these individuals. Besides the obsolescence of some addresses, other reasons may have contributed for the questionnaires not reaching the addressees. Holidays and absence due to mission may be some, as is specified in some of the late questionnaires received. From the 350 fielded, 13 were returned without reaching the addressees (1 from Canada, 2 from Germany, 3 from Indonesia, 3 from Korea, 1 from

TABLE VI

Graduates' Rate of Response

| | Sent | Ret. | | Sent | Ret. |
|---|---|---|---|---|---|
| Australia | (6) | 5 | Netherlands | (2) | 2 |
| Brazil | (5) | 2 | Norway | (11) | 6 |
| Canada | (9) | 3 | Pakistan | (1) | 1 |
| China | (7) | 1 | Philippines | (1) | 1 |
| Colombia | (3) | 2 | Portugal | (10) | 4 |
| Denmark | (1) | 0 | Peru | (13) | 4 |
| Ecuador | (3) | 1 | Saudi Arabia | (3) | 0 |
| France | (3) | 1 | Spain | (3) | 1 |
| Germany | (17) | 9 | Switzerland | (1) | 1 |
| Greece | (55) | 13 | Malaysia | (1) | 0 |
| India | (8) | 2 | Thailand | (15) | 5 |
| Indonesia | (39) | 8 | Tunisia | (1) | 0 |
| Israel | (17) | 5 | Turkey | (59) | 16 |
| Japan | (1) | 0 | Venezuela | (10) | 2 |
| Korea | (45) | 7 | | | |
| Returned without reaching addressees | | | | | 13 |
| 102 (Returned)÷337 (Sent less 13)=30.3% Response rate | | | | | |

Portugal, 1 from Saudi Arabia, 1 from Thailand, and 1 from Turkey). A total of 102 graduates responded to the questionnaires, resulting in a rate of response of 30.3 percent, but one was received too late to be included in the analysis.

## B. DESCRIPTIVE STATISTICS

### 1. Questionnaire A (Students)

#### a. Academic Satisfaction

As mentioned in Chapter III, this area was addressed with questions 1 (satisfaction with academic experience), 2 (satisfaction with material covered in courses taken), 3 (satisfaction with School requirements), 4 (impressions about professors), 5 (student-professor relationships), and 6 (the 3 most useful and the 3 least useful courses attended). Percentage bar charts of the distribution of responses to questions 1 through 5 are presented in Figure 4.1.

The vertical axes list the students' ratings to each question and the horizontal axes show the percentage with which each rating was selected.

Questions 1, 2, and 3 used the same scale: 1 (very satisfied) through 5 (very dissatisfied). It can be seen that 18.9 percent of the students are academically very satisfied, 46.4 percent are satisfied, 26.8 percent neither satisfied nor dissatisfied, and 7.9 percent are academically dissatisfied. The majority of the students, 65.3 percent, are satisfied and only 7.9 percent are dissatisfied.

In relation to the material covered in courses taken (question number 2) 9.5 percent of the students are very satisfied, 50 percent are satisfied, 34.9 percent are indifferent, 4.8 percent are dissatisfied, and 0.8 percent (one student) very dissatisfied. Again, the majority of the students, 59.5 percent, are satisfied.

The percentage of students very satisfied with the school requirements (question number 3) is 12.6, 27.5 percent are satisfied, 38.6 percent are neither satisfied nor dissatisfied, 20.5 percent are dissatisfied, and 0.8

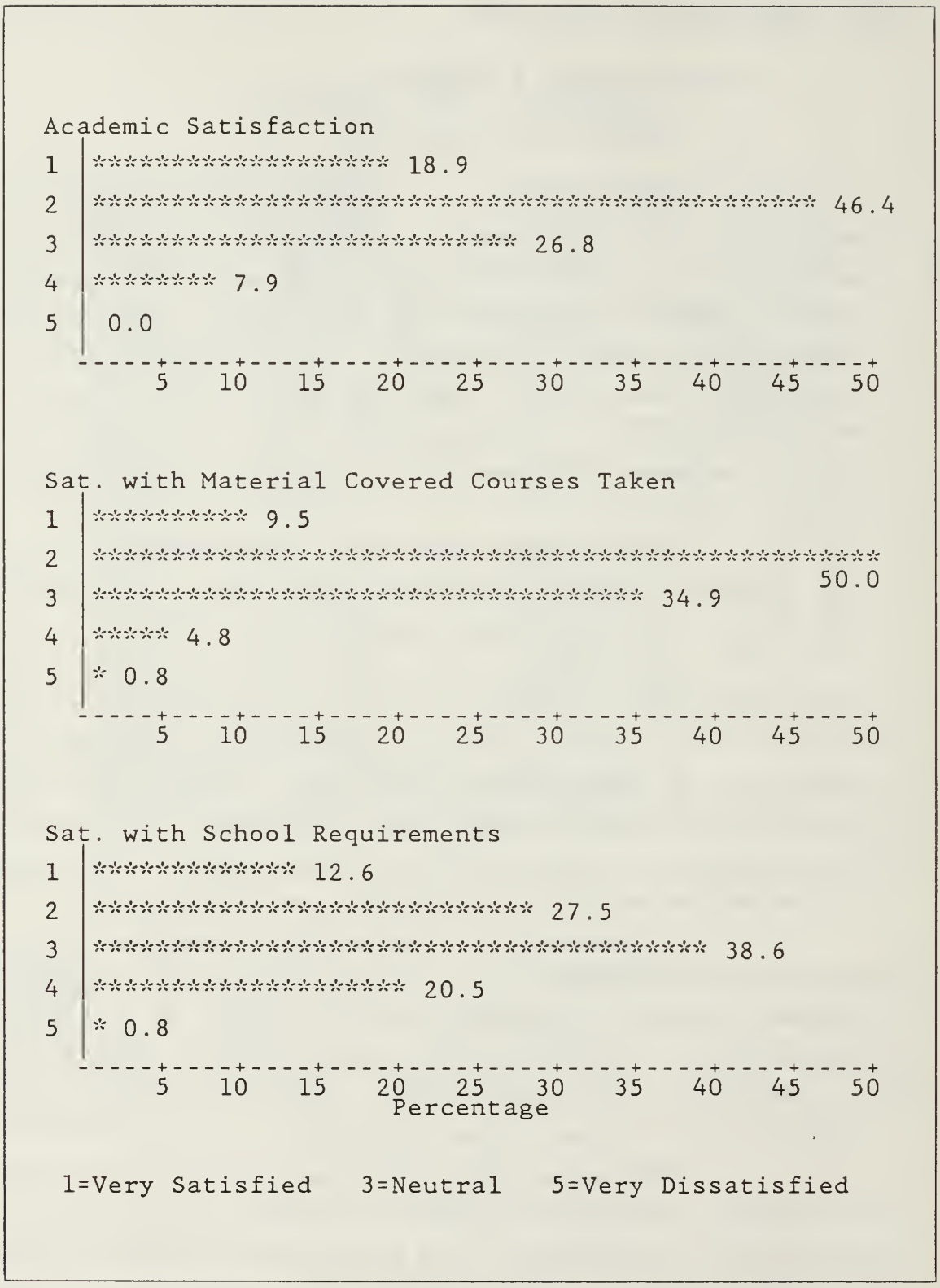


Figure 4.1 Academic Satisfaction (A).

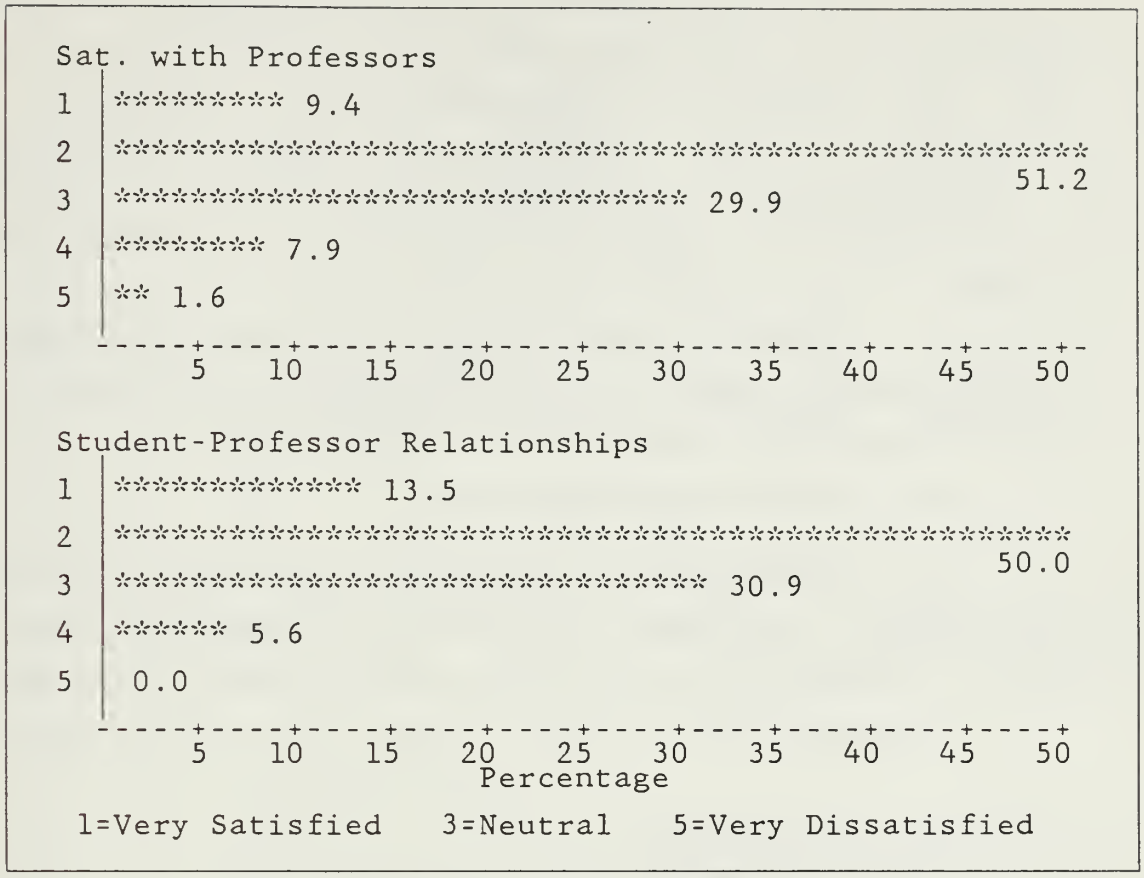


Figure 4.1 Academic Satisfaction (A) (cont'd)

percent very dissatisfied. Here the percentage of persons satisfied, 40.1, is far below the 50 percent and a great number is located in the indifference zone.

Question number 4 used also a five-point scale answer ranging from 1 (outstanding) to 5 (poor) and 9.4 percent rated the professors as outstanding, 51.2 percent as excellent, 29.9 percent as about average, 7.9 percent as fair, and 1.6 percent as poor. Again, the majority of persons, 60.6 percent, are satisfied with the professors' "quality." Only 9.5 percent are not and 29.9 percent think they are about average.

Question number 5 used a four-point scale from 1 (formal) to 4 (informal) and 13.5 percent of the students feel the student-professor relationships as formal, 50 percent as somewhat formal, 30.9 percent as somewhat informal, and only 5.6 percent as informal. The majority, 63.5 percent, feel these relationships as at least, somewhat formal.

Question number 6 asked the students to list the 3 most useful and the 3 least useful courses that they attended. This list is shown in Appendix B.

b. Career Opportunities

This item was measured with question number 7 that asked the student to express the feelings about the extent to which the stay at NPS can influence one's career.

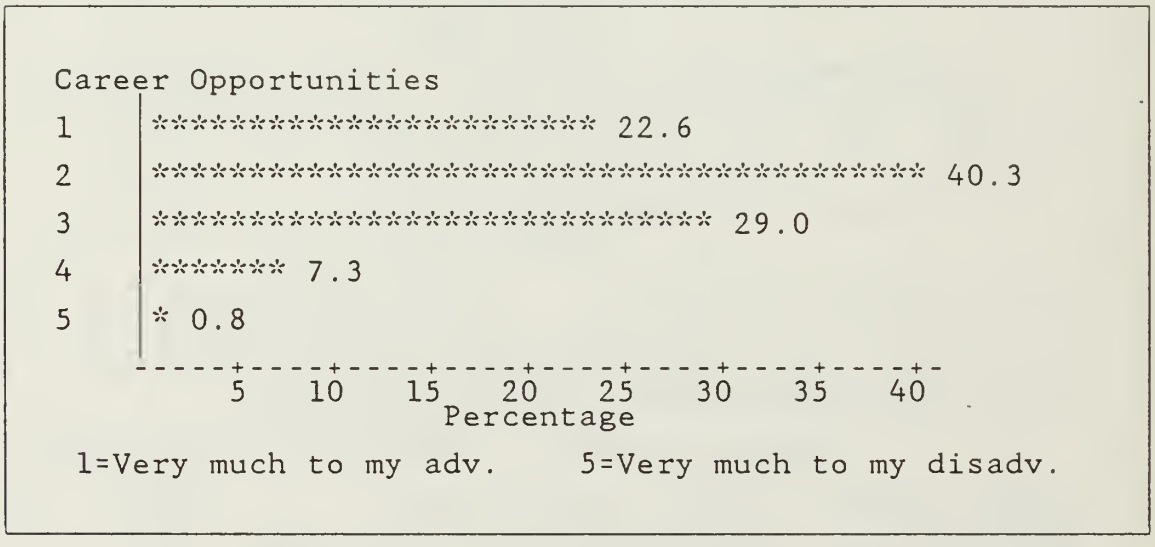


Figure 4.2 Career Opportunities (A).

This question used a five-point scale answer ranging from 1 (very much to my advantage) to 5 (very much to my disadvantage). As Figure 4.2 shows, 22.6 percent of the students

think it is very much to their advantage, 40.3 percent think it is somewhat to their advantage, 29 percent that it does not affect at all their careers, 7.3 percent that it can be somewhat to their disadvantage, and one student, 0.8 percent, that it is very much to his disadvantage. The students were also urged to explain the why of their responses. For those who did, the main reasons for advantage were a better knowledge in the field, prestige and reputation, life stability due to long periods in the same job, and better chances for promotion (for some). On the other hand, the main reason for disadvantage is also related with promotions. Since the majority of the students, 51.7 percent , are from the Navy, it was reported by many of them that sea experience is a prerequisite for promotion which some will never have again due to their curricula. In this case they see their stay at NPS as a disadvantage.

c. Financial Support

This area was addressed with questions number 8 (adequacy of financial resources) and 9 (the extent to which financial problems could affect the studies). Question number 8 used a four-point scale from 1 (very adequate) to 4 (very inadequate). Figure 4.3 shows the distribution of responses to this question.

As can be seen, for 18.9 percent of the students the financial resources are very adequate, for 43.3 percent are faily adequate, for 24.4 percent are fairly inadequate, and for 13.4 percent are very inadequate. The majority of persons, 62.2 percent, seem not to have financial problems and, consequently, the minority, though high, 37.8 percent, seem to experience financial problems.

Question number 9 used a five-point scale from 1 (to no extent) to 5 (to a great extent) and for 19.5 percent, which corresponds to the same number of students

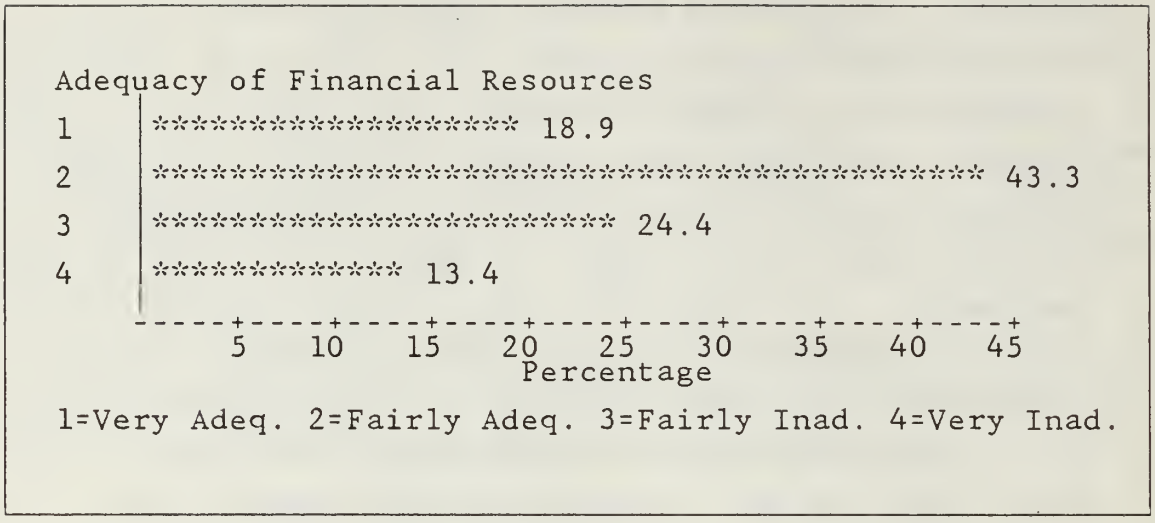


Figure 4.3 Adequacy of Financial Resources (A).

TABLE VII

Relationship of Financial Resources and Effect upon Studies - (A)

| | Influence | | | | | |
|---|---|---|---|---|---|---|
| | 1 To no Extent | 2 | 3 | 4 | 5 To a great Extent | |
| 1 Very Adequate | 19.5 | 0.0 | 0.0 | 0.0 | 0.0 | 19.5 |
| 2 Fairly Adequate | 9.8 | 8.9 | 13.8 | 8.9 | 1.6 | 43.0 |
| 3 Fairly Inadeq. | 2.4 | 2.4 | 11.4 | 6.5 | 0.8 | 23.6 |
| 4 Very Inadeq. | 2.4 | 0.0 | 3.3 | 4.9 | 3.3 | 13.9 |
| | 34.1 | 11.4 | 28.5 | 20.3 | 5.7 | 100% |

who reported financial resources as very adequate and, as could be expected, it does not affect at all their studies. Besides these, there are more 14.6 percent to whom the financial resources, despite being inadequate for some, do not affect also their studies. For 11.4 percent the effect is moderate (degree 2) while for 28.5 percent the effect is relatively important (degree 3). However, those to whom money worries constitute a serious problem are 20.3 percent who reported a high influence and 5.7 percent who reported a very high influence in their studies. But, as Table VII shows, this is a very subjective matter and very much difficult to handle. For example, there are people from the same country, probably receiving the same amount of money, who see the situation in different ways. While for some the amount is considered adequate, for others is inadequate and if it does not affect one it affects slightly, or even much others. We see, for example, people who think their financial resources as fairly adequate and consider that it influences their studies, and on the other side people with a very inadequate amount who consider that it does not affect their studies at all.

d. Language Proficiency

This area was addressed with questions number 10 (ability in speaking, listening, writing, and reading English) and 11 (the extent to which language skills can affect the studies). Question number 10 for coding purposes was divided into four questions. It was used a five-point scale from 1 (very easy) to 5 (very hard) and as Figure 4.4 shows, for 4.7 percent speaking English is very easy, for 31.5 percent it's easy, for 31.5 percent neither easy nor hard, for 19.7 percent it's hard, and for 4.7 percent it's very hard.

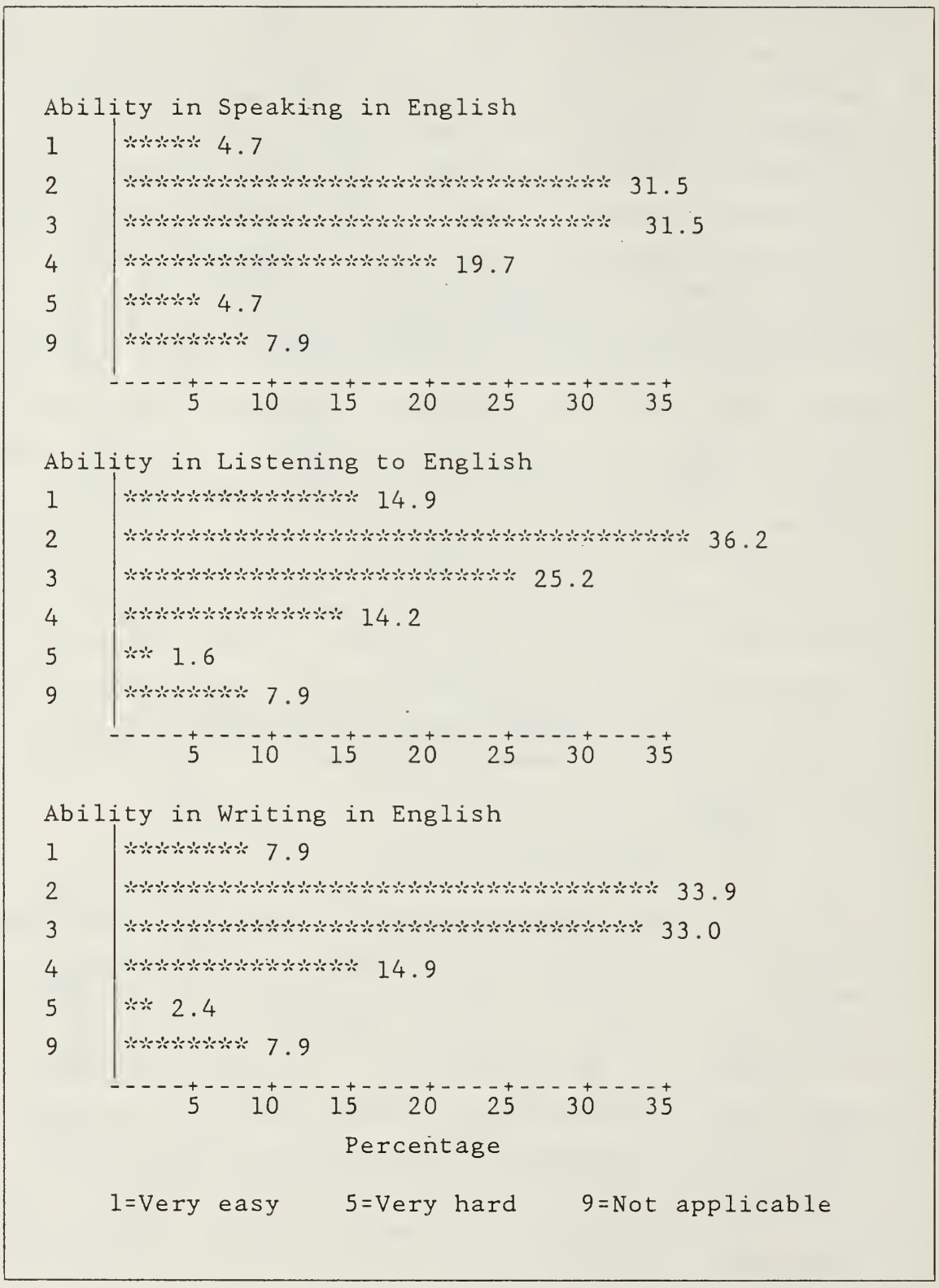


Figure 4.4 Language Proficiency (A).

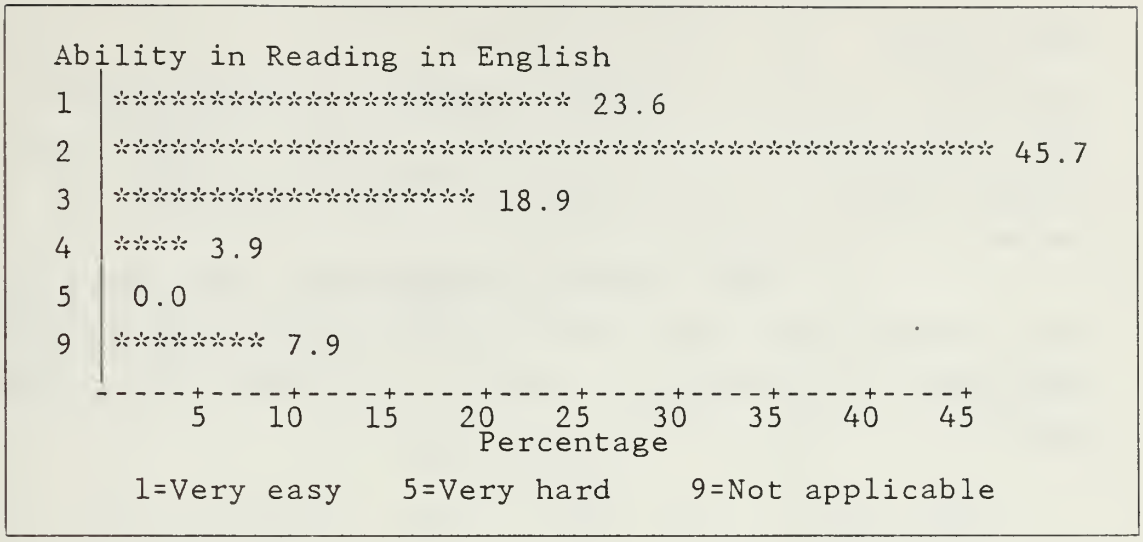


Figure 4.4 Language Proficiency (A) (cont'd)

For 7.9 percent this question is not applicable since their native language is English. As we see, for 36.2 percent it is easy to speak English, for 24.4 percent it is hard, and for 31.5 percent it is neither easy nor hard.

For 14.9 percent listening to English is very easy, for 36.2 percent it is easy, for 25.2 percent neither easy nor hard, for 14.2 percent it is hard, while for only 1.6 percent it is very hard. Again in this question and for the next two, for 7.9 percent it is not applicable. The majority of the students, 51.1 percent, seems not to have problems in listening to English, 25.2 percent are in the middle zone, and for only 15.8 percent it is hard.

In relation to writing in English, for 7.9 percent it is very easy, for 33.9 percent easy, 33.0 percent neither easy nor hard, for 14.9 percent it is hard, and for only 2.4 percent it is very hard. The majority of persons again, 41.8 percent, seem not to have problems, 33.0 percent are in the neutral zone, and for 17.3 percent it is a serious problem.

Reading English is, by far, the easiest of the four items. For 23.6 percent it is very easy, for 45.7 percent it is easy, for 18.9 percent it is neither easy nor hard, and for only 3.9 percent it is hard. Nobody reported reading English as very hard. For the great majority, 69.3 percent, it is easy.

In Table VIII are compared the four items and we see that the item that causes more problems, what could be expected, is speaking in English, followed by writing in English.

TABLE VIII

Overall Ability in English (in %) (A)

| | Easy | Neutral | Hard |
|---|---|---|---|
| Speaking | 36.2 | 24.4 | 31.5 |
| Listening | 51.2 | 25.2 | 15.7 |
| Writing | 41.7 | 33.0 | 17.3 |
| Reading | 69.3 | 18.9 | 3.9 |

The percentage to whom speaking English is easy is close to the percentage to whom it is hard, 36.2 against 31.5, with a ratio of almost 1:1. For writing English this ratio increases to 2.4:1 favorable to "easy". Reading English is, by far, the item that offers the least difficulty. For listening to English, the ratio is 3.25:1 and for reading 17.6:1 (both, of course, favorable to "easy").

For question number 11 a five-point scale answer was used ranging from 1 (to no extent) to 5 (to a great extent). Figure 4.5 shows the percentage bar chart of the distribution of responses to this question.

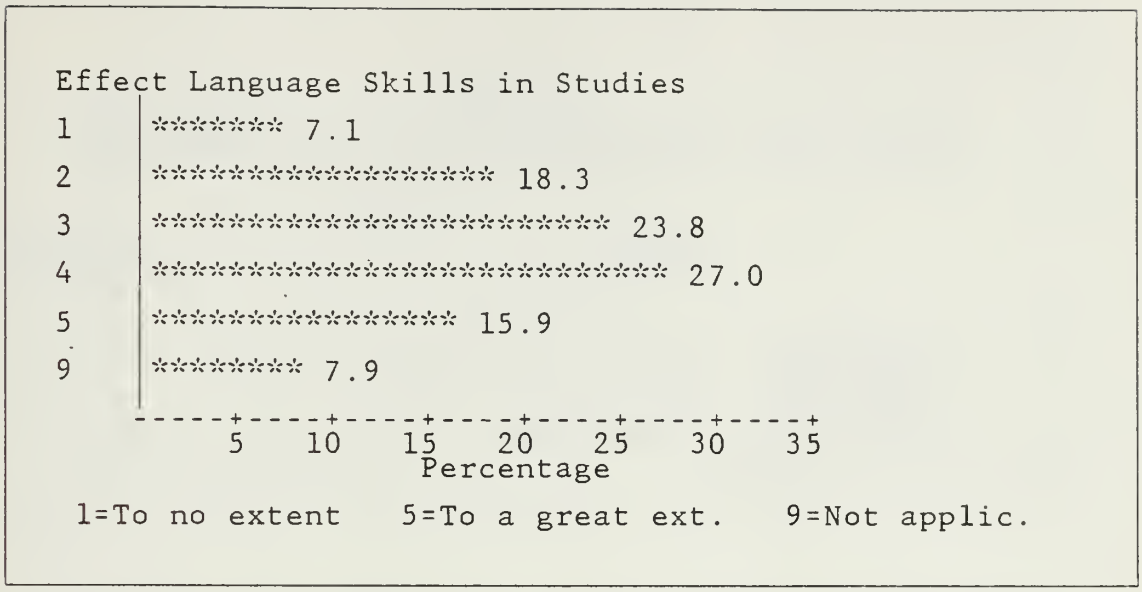


Figure 4.5 Effect of Language Skills upon Studies (A).

For 7.1 percent, English language is not a problem, and it does not affect their studies at all. For 18.3 percent it has some influence (degree 2), for 23.8 percent this influence is greater (degree 3), for 27.0 percent yet greater (degree 4), and for 15.9 percent the proficiency, or better saying the lack of proficiency, in English affects to a great extent (degree 5) their studies.

As we see, and as it could be expected, language proficiency is a serious problem for the international student whose native language is not English. For only 7.1 percent there is no affect at all, but for the remaining 84.9 percent, in a lesser or greater degree, it influences their studies. Table IX shows the comparison between the influence of money worries and language proficiency in the studies. In both financial resources and language proficiency, the percentage of people whose financial resources are very adequate (19.5) and whose native language is the English (7.9) are excluded. As can be seen, people give

TABLE IX

Influence of Financial Resources and Language Proficiency upon Studies (in %) (A)--Comparison

| | Influence | | | | |
|---|---|---|---|---|---|
| | To no extent 1 | 2 | 3 | 4 | To a great extent 5 |
| Financial Resources | 34.1 | 11.4 | 28.5 | 20.3 | 5.7 |
| Language Proficiency | 7.1 | 18.3 | 23.8 | 27.0 | 15.9 |

relatively more importance to the language proficiency than to financial problems as a possible negative influence in their studies. While 5.7 percent of the students think that financial problems affect their studies to a great extent, 15.9 percent, or almost three times more people, think the same about language problems. Considering the three last degrees, from 3 to 5, these percentages are 54.5 for financial resources and 66.7 for language proficiency.

e. Housing

This area was addressed with questions number 12 and 13. Question number 12, using a five-point scale from 1 (very satisfied) to 5 (very dissatisfied) asked the student to express his satisfaction/dissatisfaction with his present housing arrangement.

Figure 4.6 shows that 18.9 percent of the students are very satisfied, 18.9 percent are satisfied, 25.2 percent are neither satisfied nor dissatisfied, 21.2 percent are dissatisfied, and 15.8 percent very dissatisfied. The percentages of satisfied and dissatisfied people are very similar, 37.8 and 37.0, respectively, and 25.2 are

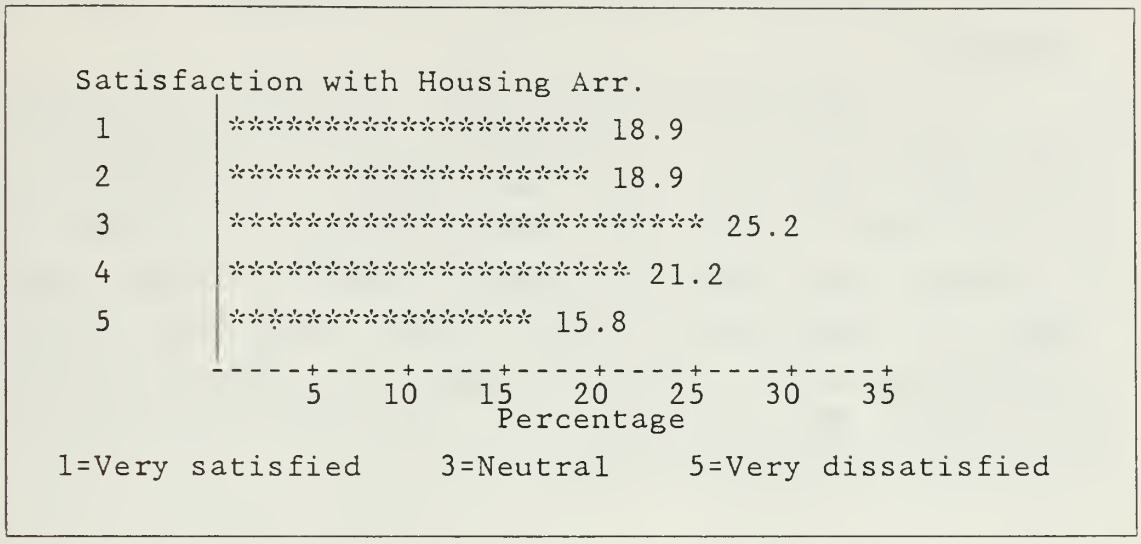


Figure 4.6 Satisfaction with Housing Arrangement.

in the indifference zone. As seen, and as it could also be expected, housing constitutes a serious problem for the international student.

Question number 13 asked the student if he felt that the School helped him enough to find housing when he arrived at Monterey. From the 122 who responded to this question 10.7 percent said "yes" and 89.3 percent said "no."

f. Interpersonal Relations

This area was measured with questions 14 (free time spent with U.S. nationals), 15 (free time spent with people of the same nationality), and 16 (free time with people other than U.S. nationals or of the same nationality).

In relation to question 14, 8.7 percent of the students reported no contact at all with U.S. nationals, 66.9 percent spend 10 percent or less of their free time with U.S. nationals, and 83.5 percent--25 percent or less. As we see, the association of the international student with

fellow Americans is very low and is mainly with their sponsors.

For question 15, 3.9 percent of the students reported no contact with people of the same nationality, but the great majority comes, obviously, from those who are alone here. There were, at the time of the survey, twelve countries with only one student at NPS. From those who reported contact with people of the same nationality, 22.8 percent spend 10 percent or less, 35.4 percent--25 percent or less, 68.5 percent--50 percent or less, and 78.7 percent--75 percent or less.

TABLE X

Interpersonal Relations (A)--Comparison

| Free time (in %) spent | 0 | 10% or less | 25% or less |
|---|---|---|---|
| With U.S. Nationals | 8.7 | 66.9 | 83.5 |
| With same Nationality | 3.9 | 22.8 | 35.4 |
| With other Nationalities | 14.9 | 66.1 | 82.7 |

For question 16, 14.9 percent of the students reported no contact with people of other nationalities, 66.1 percent spend 10 percent or less, and 82.7 percent--25 percent or less.

As we see in Table X, the international student does not associate much with U.S. nationals or with people of other nationalities. Even with people of the same nationality the degree of association is low and the main reason is, probably, the lack of time.

g. Perceived Accorded Personal Status

This area was addressed with question 18 that for coding purposes was divided into five questions. Each question used a four-point scale from 1 (among the highest) to 4 (among the lowest), and 16.1 percent think that their U.S. fellow students place them among the highest with respect to Maturity, 66.1 percent fairly high, 15.3 percent fairly low, and 2.5 percent among the lowest. With respect to Academic Performance, 17.1 percent of the students think they are placed among the highest, 66.7 percent fairly high, and 16.2 percent fairly low.

TABLE XI

Perceived Accorded Personal Status

| Characteristics | Ratings 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Maturity | 16.1% | 66.1% | 15.3% | 2.5% |
| Acad. Perf. | 17.1% | 66.7% | 16.2% | 0 |
| Intelligence | 19.3% | 61.4% | 19.3% | 0 |
| Personality | 13.8% | 65.5% | 18.1% | 2.6% |
| Background | 19.5% | 61.0% | 15.3% | 4.2% |

1=Among the highest 4=Among the lowest

Nobody thinks of themselves to be placed among the lowest category. In relation to Intelligence, 19.3 percent of the students think they are placed among the highest, 61.3 percent think they are placed fairly high, and 19.3 percent fairly low. Again, nobody used the last degree, among the lowest.

For the item Personality, 13.8 percent of the students think they are placed among the highest, 65.5 percent think they are placed fairly high, 18.1 percent fairly low, and 2.6 percent among the lowest.

For the last item, Background, 19.5 percent of the students think to be among the highest, 61 percent fairly high, 15.3 percent fairly low, and 4.2 percent among the lowest.

Table XI summarizes these responses, and as seen, the majority of the students, ranging from 61 to 66.7 percent, place themselves in the second rating, fairly high, and the great majority in the two first ratings, among the highest or fairly high. Twenty percent or less place themselves in the two lowest categories, fairly low or among the lowest.

h. Living in a New Culture

Question number 18 is related with some aspects of living in Monterey. Students were asked to rank in order of difficulty a number of items which includes: food, housing, time for family, time for study, spoken English, finding housing, finding friends, finding religious services, traffic regulations, and medical care. For coding purposes this question was divided into three ratings: 18A--the most difficult, 18B--the second most difficult, and 18C--the third most difficult.

For question 18A, 25.8 percent of the students reported as the most difficult "finding housing", 22.6 percent consider the most difficult to find "time for family", and 16.9 percent "time for study". The remaining percentage is split between the other items, but all with less than ten percent.

For question 18B, 23.1 percent of the students consider the second most difficult "time for family", 19.8

percent "finding housing", 19 percent "time for study", and 13.2 percent "spoken English." In the same way, the remaining percentage is split between the other items.

For question 18C, 17.6 percent of the students consider the third most difficult "spoken English", 14.3 percent "time for study", 14.3 percent "housing", 13.4 percent "finding housing", 11.8 percent "time for family", and 10.1 percent "medical care."

As can be seen, time for family, time for study, and finding housing, are the three things that most concern the students. Interestingly, traffic regulations only appear as the third most difficult and only 1.7 percent of the students gave to this item some importance.

Students were also urged to specify other difficulties. From those who did the most mencioned are: children schooling and friends, getting information about international events, dental care for family, find a car and selling the car.

i. General Satisfaction with NPS

The last question, question number 22, asked the student to express his general satisfaction with NPS using a five-point scale answer from 1 (very satisfied) to 5 (very dissatisfied).

As Figure 4.7 shows, 7.5 percent of the students are very satisfied with the school and, implicitly, with their stay here; 55 percent are satisfied; 28.3 percent neither satisfied nor dissatisfied; and only 9.2 percent are dissatisfied. Nobody used the last point of the scale--very dissatisfied. The majority of the students, 62.5 percent, are satisfied, while only 9.2 percent are dissatisfied.

Figures 4.8, 4.9, 4.10, and 4.11 show the general satisfaction with NPS by service, rank, field of study, and by geographic region, respectively.

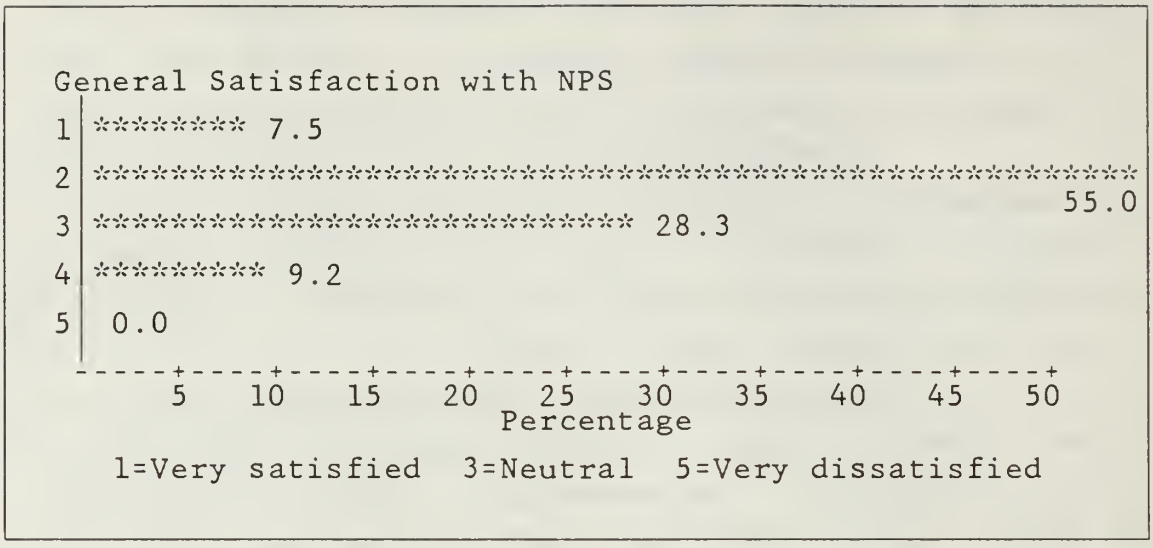


Figure 4.7 General Satisfaction with NPS (A).

There are slight differences in the way people evaluate general satisfaction depending on service, rank, field of study, and geographic region.

Proportionately, the Army is the service with more "very satisfied" people (10.3 percent), followed by the Air Force (9.1 percent), and Navy (6.7 percent). In the "satisfied" group the Air Force leads with 63.6 percent, followed by the Army with 58.6 percent, and, again, the Navy in the last place with 49.2 percent. The Navy leads the "neutral" group with 37.3 percent, followed by the Air Force with 18.1 percent and Army with 17.3 percent. On the other side, the Navy has the least representation in the "dissatisfied" group with 6.8 percent, followed by the Air Force with 9.1 percent and Army with 13.8 percent. The most satisfied are the Air Force people (72.7 percent), and the most dissatisfied the Army, with the Navy leading the neutral zone.

By rank, the most interesting feature is that the O2s are not represented in the first degree, very

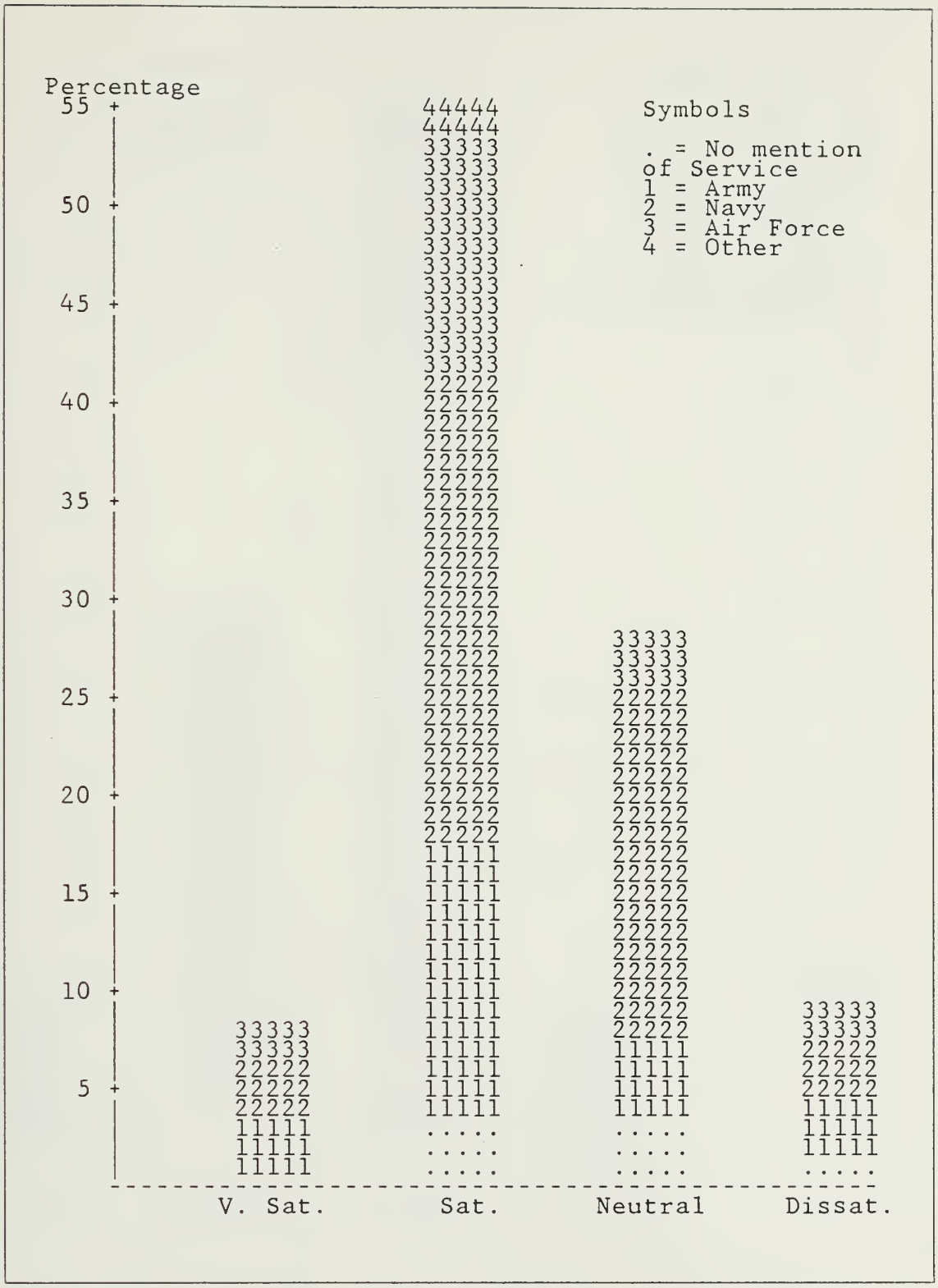


Figure 4.8 General Satisfaction with NPS (A)--by Service.

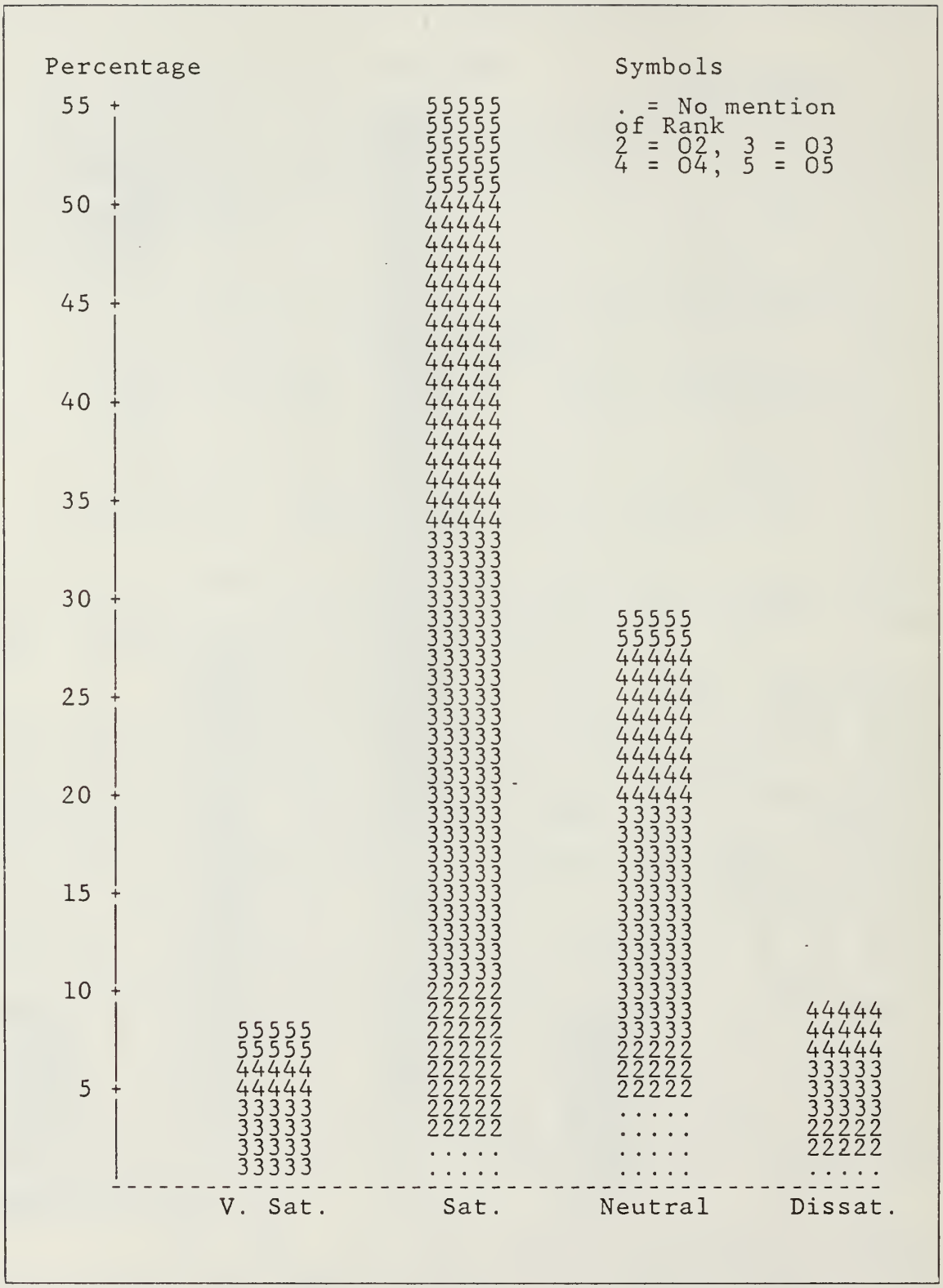


Figure 4.9 General Satisfaction with NPS (A)--by Rank.

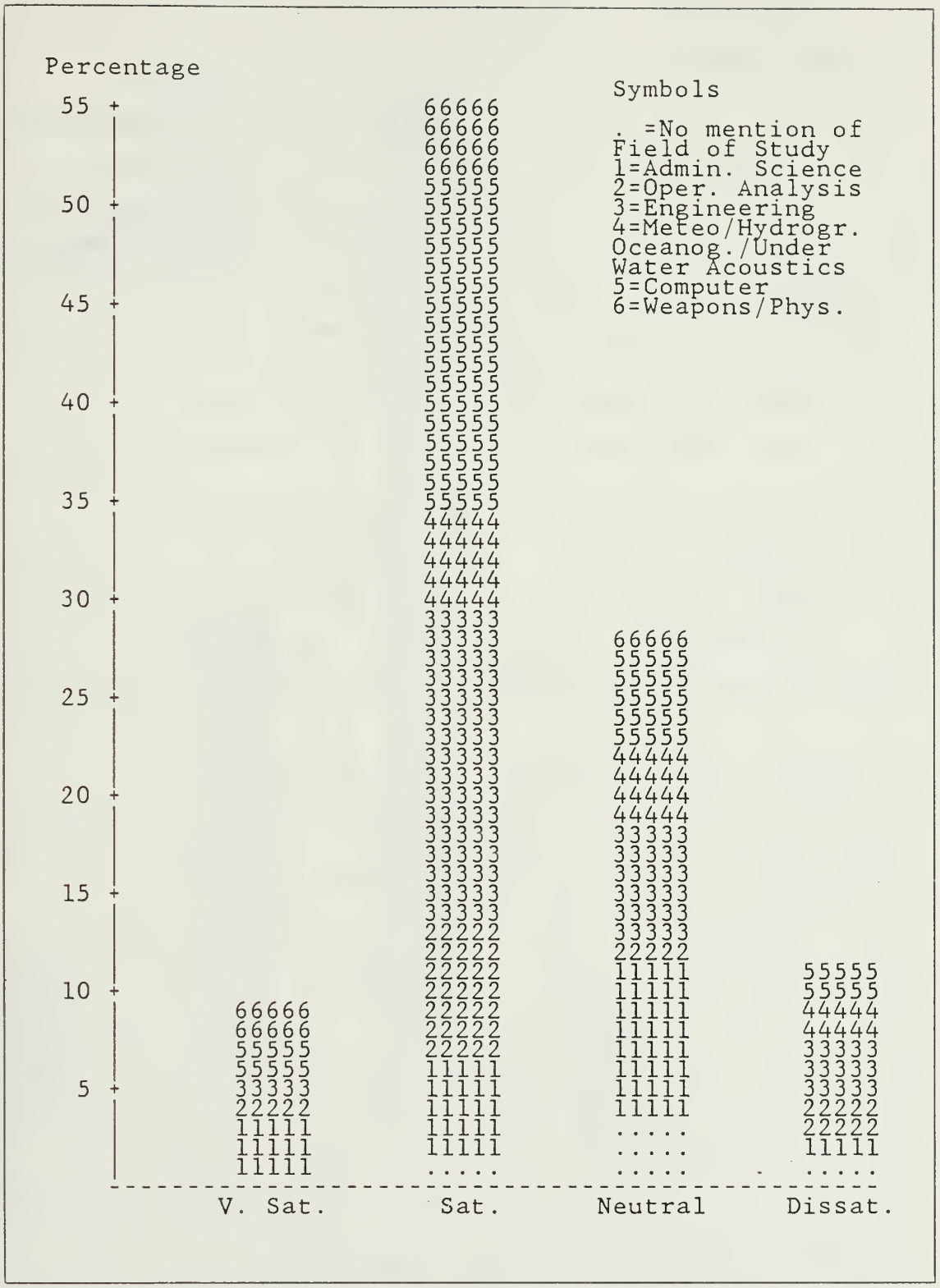


Figure 4.10 Gen. Satisf. with NPS (A)--by Field of Study.

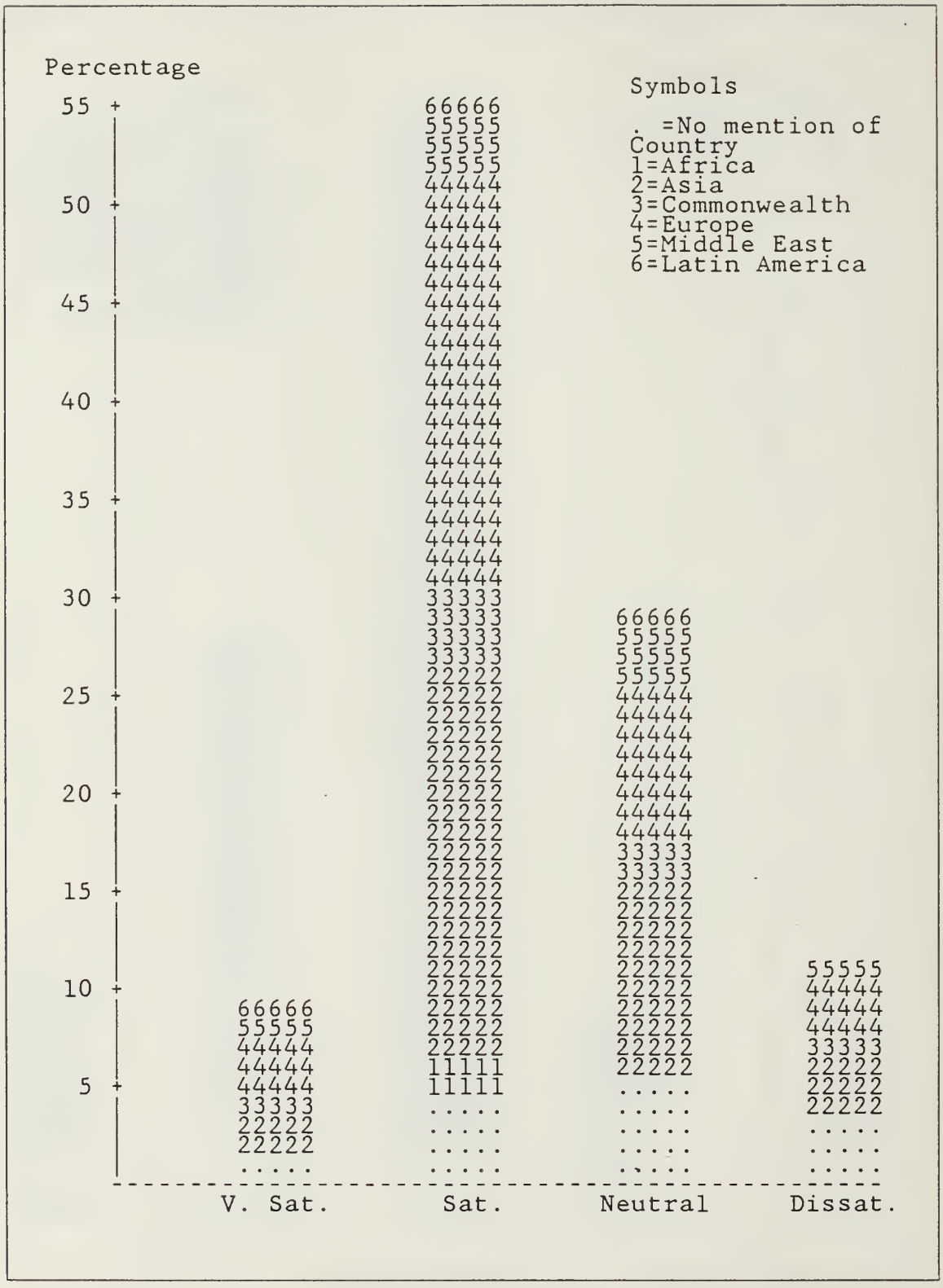


Figure 4.11 Gen. Satisf. with NPS (A)--by Geog. Region.

satisfied, and the O5s in the last one, dissatisfied. The O6s were excluded from this analysis because there were only two. Proportionately, the O5s lead the "very satisfied" group with 20 percent, followed by the O3s with 10.2 percent and O4s with 5.7 percent. The "satisfied group is led by the O2s with 62.5 percent, followed by O5s, O4s, and O3s with very slight differences. The "neutral" group is very much alike too, with the O3s leading, but the differences are very small. The last group, "dissatisfied," is led by the O2s with 12.5 percent, followed by the O4s and O3s, the latter with only 6.1 percent. The most satisfied are the O5s with 80 percent, and the most dissatisfied the O2s with 12.5 percent.

For the purpose of this study the curricula were grouped in the following way: group 1 Administrative Sciences, group 2 Operations Analysis, group 3 Engineering, group 4 Meteorology, Hydrography, Oceanography, and Underwater Acoustics, group 5 Computers, and group 6 Weapons and Physics.

Group 4 is the only one that has nobody very satisfied. This rating is led by group 6 with 22.3 percent, followed by group 1 with 15 percent and groups 2, 5, and 3 with less than ten percent each. In the "satisfied" rating, groups 6 and 2 share the first place with 66.7 percent followed by group 5 and 3 with a very slight difference. The least satisfied are groups 4 with 46.1 percent and 1 with 30 percent. The indifference zone is led by group 1 with 50 percent, followed by group 4 with 38.5 percent, 3 with 23.3 percent, 5 with 20 percent, 6 with 11.1 percent, and 2 with 8.3 percent. The most "dissatisfied" are the students from the group 2 with 16.7 percent, followed by group 4, 3, 5, and 1, the latter with only 5 percent. In conclusion, the most satisfied are the students from group 6 with 89 percent, the least satisfied

those from group 1 with 45.1 percent, followed closely by group 4 with 46.1 percent; and the most dissatisfied are those from group 2 with 16.7 percent. Group 1, besides being the least satisfied, leads the indifference zone with 50 percent.

Interestingly, when the responses are grouped by geographic region the differences appear smaller. The analysis is limited to two regions, Asia and Europe, since the other representations are too small. The ratings of students in these regions are very much alike in respect to general satisfaction with NPS. Proportionately, Europe has a small advantage in the group of "very satisfied" with 7.3 percent against 4.9 percent for Asia. In the "satisfied" group, Europe leads too, but the difference is smaller, 61 percent against 58.5 percent. Asia leads the indifference zone with 29.3 percent against 24.4 percent, and in the "dissatisfied" group they are both equal with 7.3 percent each. In conclusion, students from Europe are slightly more satisfied than students from Asia.

Students were encouraged to make personal comments or observations about their experience at NPS. These comments and observations are presented without editing in Appendix C.

2. Questionnaire B (Graduates)

a. Post- NPS Job Experiences

This area was addressed with questions number 1, 2, 3, 4, and 5. Question number 5, using a five-point scale answer ranging from 1 (to a great extent) to 5 (to no extent), asked the officer to rate the amount of what he learned at NPS that he considers useful in his current job.

As Figure 4.12 shows, 17.8 percent use to a great extent what they learned at NPS in their present jobs,

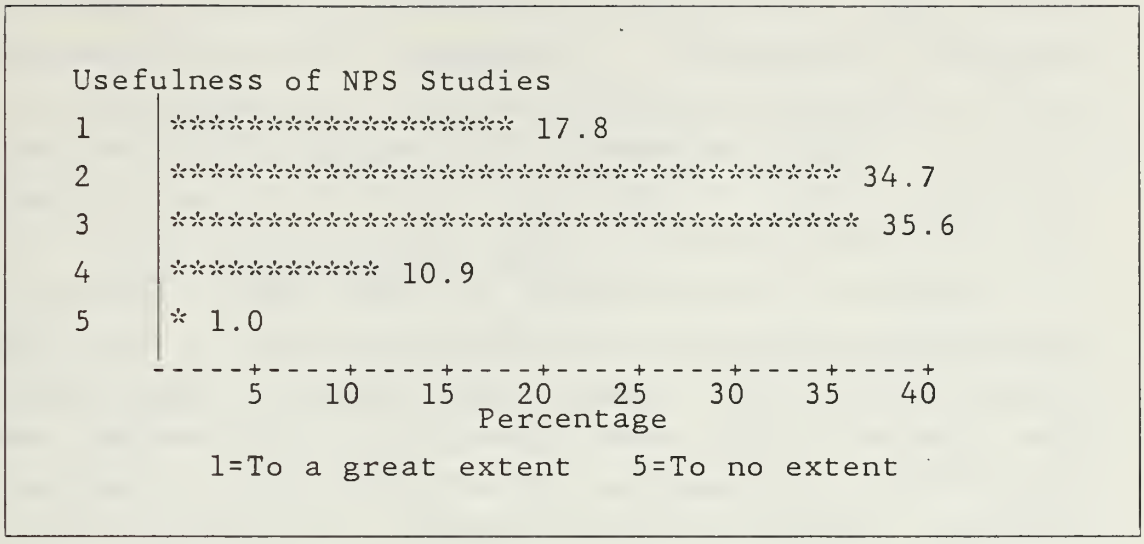


Figure 4.12 Usefulness of NPS Studies.

34.7 percent to a relatively great extent, 35.6 percent to some extent, 10.9 percent a few, and only one graduate, one percent, does not apply the knowledge acquired at NPS in his job. For the great majority of the graduates, 88.1 percent, the usefulness of NPS studies is evident.

Question number 2, that for coding purposes was divided into two questions, asked about the receptivity of peers and superiors to the adoption of innovations eventually suggested by the graduate on the basis of his NPS experiences. Both questions used a four-point scale: 1 (very receptive), 2 (fairly receptive), 3 (not receptive), and 4 (not applicable). A very high peers' receptivity is pointed out by 30.7 percent of the graduates, 60.4 percent reported it as fairly, for 3 percent the peers did not show any receptivity, and for six graduates, 5.9 percent, it was not applicable.. For the second question, 21 percent of the graduates think their superiors were very receptive, 64 percent think they were fairly receptive, for 9 percent they were not receptive, and for 6 percent it was not applicable.

As we see, either peers' receptivity, 91.1 percent, or superiors' receptivity, 85 percent, are relatively high, what confirms the usefulness of their studies at NPS.

Question number 3 is related with the previous question, since it asked about the kind of innovations that may have been suggested. For coding purposes each item of this question was treated as an independent question with two options, yes or no, if answered or not. The graduate could choose as many items as applicable. Innovations in the technical field were suggested by 40.6 percent of the respondents, in organization of work by 45.5 percent, in computer systems by 42.6 percent, in curricula by 18.8 percent, in administrative procedures by 23.8 percent, and in the introduction of modern research methods by 26.7 percent. It seems that the respondents were more comfortable with the first three items, with percentages near 50 percent, than with the last three, with percentages near 20 percent.

Question number 4 was treated in the same way as question 3, and its intention was to measure the efforts that the graduate may have made to transmit his NPS experience to his subordinates, peers, or superiors. In the same way, he could have chosen as many items as applicable. Just over 41 percent used official reports, 31.7 percent in-service training, 43.6 percent lectures/seminars, 71.3 percent informal conversations, and, for only 5 percent, it was not applicable.

Question number 5 is related with the two previous questions and asked the graduate to assess the effect of all these efforts. The graduate had six possible answers: 1 (great), 2 (medium), 3 (little), 4 (no effect at all), 5 (don't know), and 6 (not applicable). For 11 percent the effect was assessed as great, for 60.4 percent as medium, and for 21.8 percent as little. Nobody assessed

his effort as null, 4 percent did not know, and, for only 3 percent, it was not applicable. Despite not being asked, some explained the last two ratings as the time in the job had not been enough to have a good perception to answer more fully.

b. Career Opportunities

This item was measured with question number 6 which asked the graduate the extent to which his career has been affected by his stay at NPS. This question is very similar to question number 7 in questionnaire A being the great difference the way it is seen. While in questionnaire A the answer is based on a feeling, in this questionnaire it is based on actual experience.

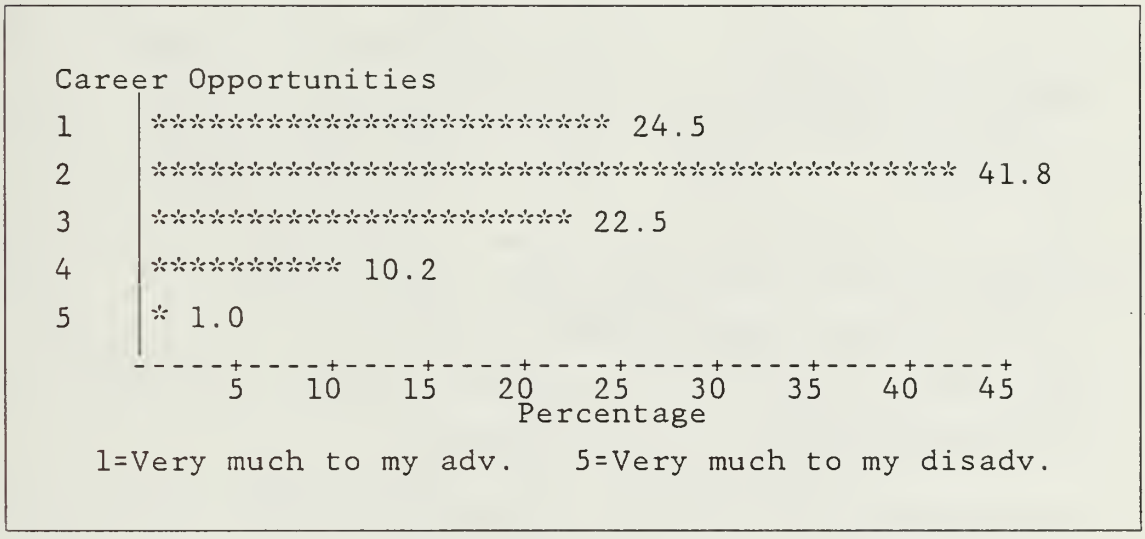


Figure 4.13 Career Opportunities (B).

Figure 4.13 shows that 24.5 percent believed the NPS experience was very much to their advantage, 41.8 percent that it was somewhat to their advantage, 22.5 percent neither one way nor the other, 10.2 percent that it

was somewhat to their disadvantage, and one officer (one percent) believed it was very much to his disadvantage. Graduates were also urged to explain the reasons for their answers, and the great majority did. The reasons are similar to those given by students who responded to questionnaire A. The main reasons for advantage are also a better knowledge in the field, prestige and status, and respect and consideration. One graduate wrote: "I have been assigned tasks which normally at my seniority would not have come my way." The opportunity to be placed in important jobs is mentioned by several graduates. Faster promotions in certain cases is also referred as an advantage.

On the other side, promotions and life at sea are the main reasons indicated for disadvantage. As one graduate wrote: "My stay at NPS put me off track for two years, that is two years of school instead of two years at sea." And another: "I'm a Naval line officer. Career progression hinges on sea time and not postgraduate degrees. Because of NPS degree, I have spent four years out of the mainstream." And yet another expressed himself in this way: "I passed from high tide to low tide." The remarks by the graduate who considered the NPS experience very much to his disadvantage followed the same line of thinking: "By the time I found out that my Navy wanted to use me as an engineer instead of a line officer."

Interestingly, the answers given to this question either by students (questionnaire A) or graduates (questionnaire B) are very similar. Table XII shows this comparison and, as can be seen, the students' feelings are not far from the graduates' perceptions.

c. Financial Support

This area was addressed with the same type of questions of questionnaire A. Here, the questions are number 9 and 10.

TABLE XII

Career Opportunities--Comparison (in %)

| Ratings | Students (A) | Graduates (B) |
|---|---|---|
| Very much to my adv. | 22.6 | 24.5 |
| Somewhat to my adv. | 40.3 | 41.8 |
| Neutral | 29.0 | 22.5 |
| Somewhat to my disadv. | 7.3 | 10.2 |
| Very much to my disad. | 0.8 | 1.0 |

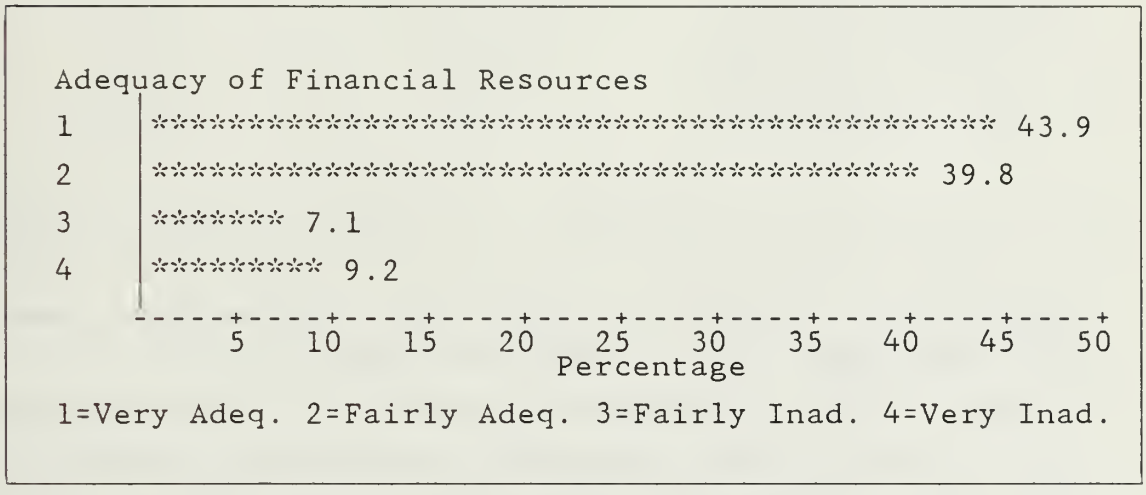


Figure 4.14 Adequacy of Financial Resources (B).

Question 9 asked the adequacy of financial resources giving four options from 1 (very adequate) to 4 (very inadequate). Figure 4.14 shows the distribution of responses to this question and, as can be seen, for 43.9 percent of the graduates the financial resources were very adequate, for 39.8 percent they were fairly adequate, for

7.1 percent fairly inadequate, and for 9.2 percent very inadequate. The great majority of the graduates seem not have had great financial problems while studying at NPS.

There are considerable differences in the way this situation is seen by current students and graduates. Table XIII shows this comparison. The main difference is in the first rating, very adequate, and in the third, fairly

TABLE XIII

Adequacy of Fin. Resources--Comparison (in %)

| Ratings | Students (A) | Graduates (B) |
|---|---|---|
| Very adequate | 18.9 | 43.9 |
| Fairly adequate | 43.3 | 39.8 |
| Fairly inadequate | 24.4 | 7.1 |
| Very inadequate | 13.4 | 9.2 |

inadequate. The graduates stated that they were considerably more secure financially than current students, but the reason for this difference is not clear. One explanation may be the enormous strength of the American dollar in the last two or three years and a consequent weakness of foreign currencies.

Question number 10 is related to the effect of financial resources in studies. Table XIV shows that for 58.2 percent of the graduates (those with a very adequate amount plus 14.3 percent with a fairly adequate amount) financial resources did not influence their studies; for 12.3 percent the influence was relatively small, for 9.1 percent it had some influence, for 11.2 percent a relatively

TABLE XIV

Relationship of Financial Resources and Effect upon Studies--(B)

| | 1 To no Extent | Influence 2 | 3 | 4 | 5 To a great Extent | |
|---|---|---|---|---|---|---|
| 1 Very Adequate | 43.9 | 0.0 | 0.0 | 0.0 | 0.0 | 43.9 |
| 2 Fairly Adequate | 14.3 | 8.2 | 7.1 | 6.1 | 4.1 | 39.8 |
| 3 Fairly Inadeq. t | 0.0 | 1.0 | 2.0 | 2.0 | 2.1 | 7.1 |
| 4 Very Inadeq. | 0.0 | 3.1 | 0.0 | 3.1 | 3.1 | 9.3 |
| | 58.2 | 12.3 | 9.1 | 11.2 | 9.2 | 100% |

high influence, and for 9.2 percent it had a great influence. Despite not following a totally logical pattern, it seems stronger than the responses to the questionnaire A.

The comparison between the responses to this questionnaire and questionnaire A depicted in Table XV shows the differences in the way this influence is seen.

A larger percentage of graduates think that the amount of financial resources did not influence their studies at all. There are considerable differences also in the rating 3 and 4, but a slight increase in the percentage in the last rating, to a great extent.

d. Language Proficiency

This area was addressed with the same type of questions as presented in questionnaire A. Question number

TABLE XV

Influence Fin. Resources--Comparison (in %)

| Ratings | Students (A) | Graduates (B) |
|---|---|---|
| 1 To no extent | 34.1 | 58.2 |
| 2 | 11.4 | 12.3 |
| 3 | 28.5 | 9.1 |
| 4 | 20.3 | 11.2 |
| 5 To a great extent | 5.7 | 9.2 |

11 asked the graduate to rate his ability in speaking, listening, writing, and reading in English, and question number 12 was designed to measure the extent to which language skills could have affected the studies.

Question number 11 used a five-point scale answer in all four variants, ranging from 1 (very easy) to 5 (very hard). Figure 4.15 shows the distribution of responses. As shown, for 16.3 percent it was very easy to speak English, for 45.9 percent it was easy, for 20.5 percent neither easy nor hard, for 7.1 percent it was hard, and for 2 percent it was very hard. For 8.2 percent this question was not applicable, since their native language was English. The majority of the graduates, 62.2 percent, considered speaking in English as easy, 9.1 percent as hard, and 20.5 percent neither one way nor the other.

For 35.7 percent, listening to English was very easy, 42.9 percent considered it easy, 6.1 percent considered it hard, one percent very hard, and for 6.1 percent neither easy nor hard. Again, the majority of the graduates, 78.6 percent, did not report problems with this item, while it was reported to be a problem for 7.1 percent.

The next item, writing in English, was reported as very easy by 17.4 percent, as easy by 37.8 percent, neither easy nor hard by 22.4 percent, as hard by 12.2 percent, and as very hard by 2 percent. The majority, though smaller at 55.2 percent, reported no problems in writing in English; and the minority, though higher than in the previous question, 14.2 percent, reported some problems.

Reading in English was, by far, the easiest item of the four being reported as hard by only 3 percent and nobody reported it as very hard. The percentage in the indifference zone is smaller too, 8.2 percent, and for the great majority, 80.6 percent, reading presented no problems.

Table XVI compares the four items, and as indicated, the easiest item was reading in English and the hardest was writing in English.

Looking at Table XVII, it can be seen that there are considerable differences in the way current students and graduates see this item. It is hard to interpret these differences that in certain items can be considered enormous. For example, the percentage of graduates that considered speaking in English as easy is almost the double of current students, and the percentage that considered this item hard is about three and a half times smaller. There were great discrepancies in listening to English too. Twenty five percent more of graduates considered it easy and less than a half considered it hard when compared with current students. While for current students the hardest item is speaking in English, for graduates it was writing in English. The easiest for both groups was reading.

Since it is not believable a better preparation of the graduates when students at NPS in relation to the current students the only plausible explanation is a matter of time. Moreover, as we are going to see along this research, time is sometimes the only explanation for some

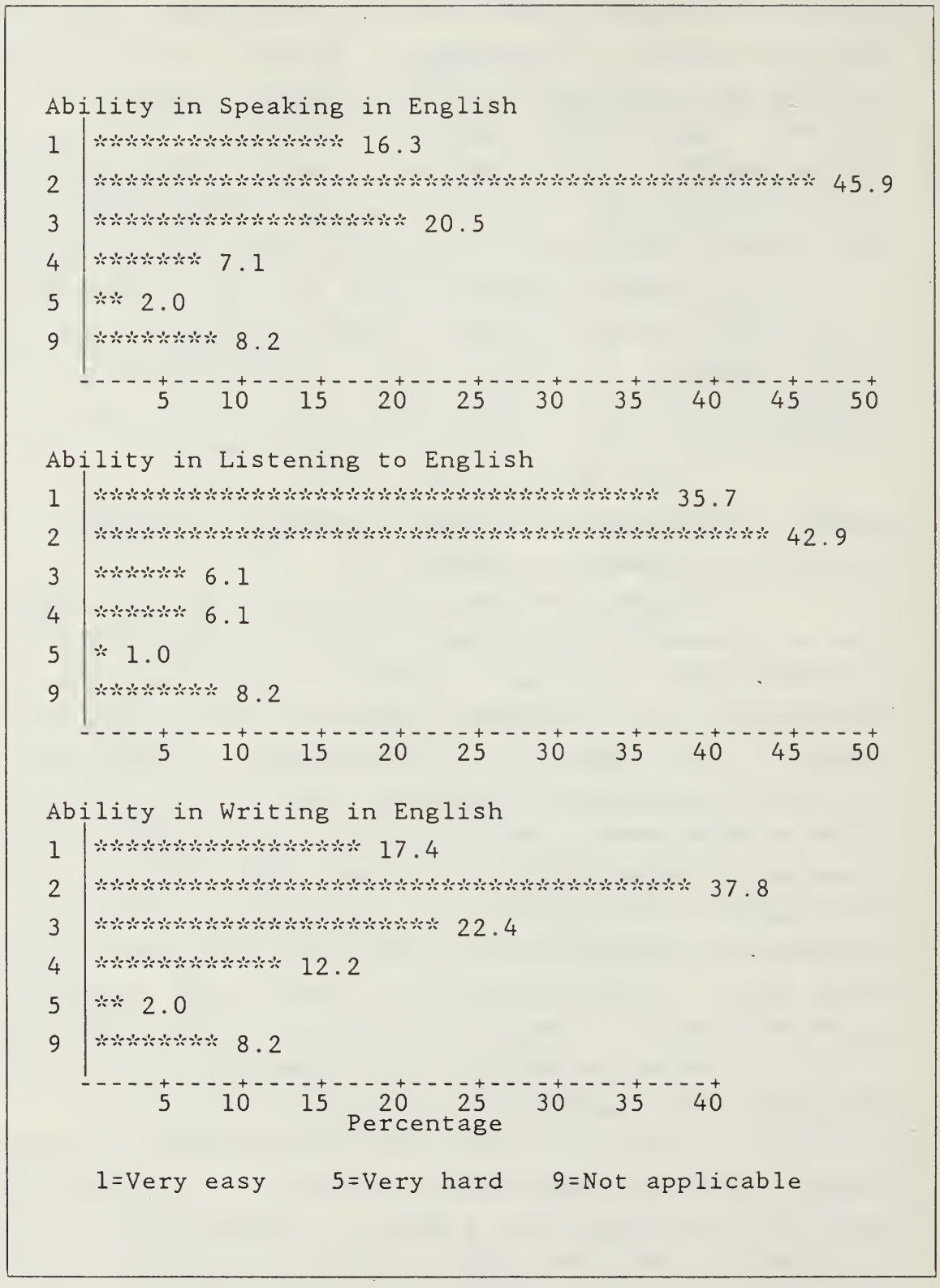


Figure 4.15 Language Proficiency (B).

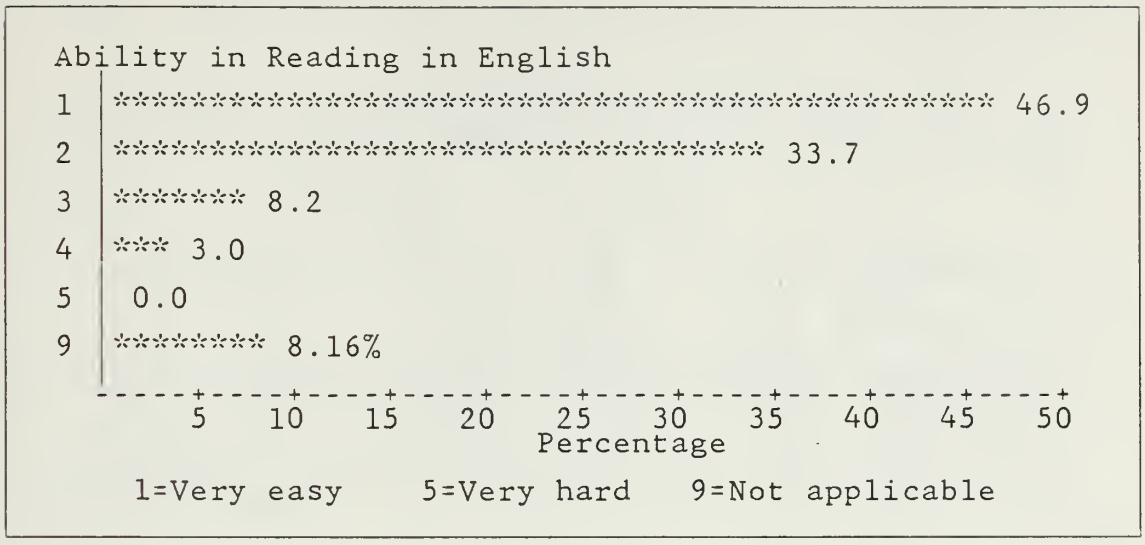


Figure 4.15 Language Proficiency (B) (cont'd)

TABLE XVI

Overall Ability in English (in %) (B)

| | Easy | Neutral | Hard |
|---|---|---|---|
| Speaking | 62.2 | 20.5 | 9.1 |
| Listening | 78.6 | 6.1 | 7.1 |
| Writing | 55.2 | 22.4 | 14.2 |
| Reading | 80.6 | 8.2 | 3.0 |

discrepancies. While current students are experiencing the natural problems and pressures of the student's life, graduates are seeing them as a past experience where the natural tendency is to forget the bad things and only remember the good.

TABLE XVII

Overall Ability in English--Comparison (in %)

| | Easy | | | Neutral | | | Hard | | |
|---|---|---|---|---|---|---|---|---|---|
| | A | | B | A | | B | A | | B |
| Speaking | 36.2 | - | 62.2 | 24.4 | - | 20.5 | 31.5 | - | 9.1 |
| Listening | 51.2 | - | 78.6 | 25.2 | - | 6.1 | 15.7 | - | 7.1 |
| Writing | 41.7 | - | 55.2 | 33.0 | - | 22.4 | 17.3 | - | 14.2 |
| Reading | 69.3 | - | 80.6 | 18.9 | - | 8.2 | 3.9 | - | 3.0 |

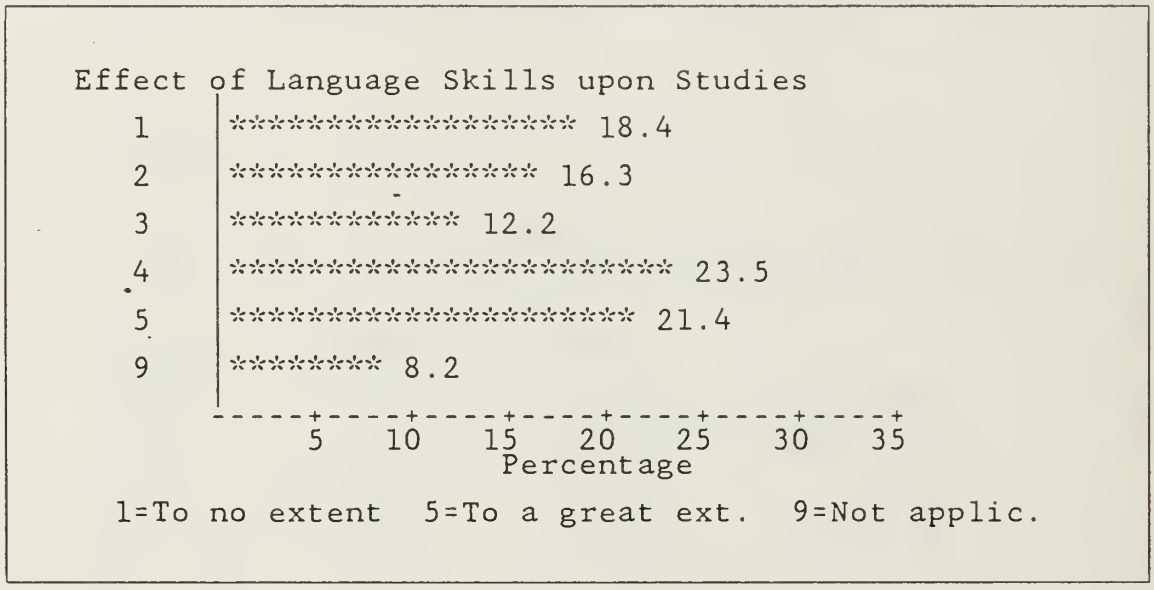


Figure 4.16 Effect of Language Skills upon Studies (B).

Question number 12 used a five-point scale from 1 (to no extent) to 5 (to a great extent). Figure 4.16 shows the percentage bar chart of the distribution of responses. For 18.4 percent of the graduates the English language was not enough of a problem to influence their

studies, for 16.3 percent it had little influence (degree 2), for 12.2 percent it had some influence (degree 3), for 23.5 percent the influence was relatively high, and for 21.4 percent it had a great negative influence on the studies.

TABLE XVIII

Effect Lang. Skills upon Studies--Comparison (in %)

| Ratings | Students (A) | Graduates (B) |
|---|---|---|
| 1 To no extent | 7.1 | 18.4 |
| 2 | 18.3 | 16.3 |
| 3 | 23.8 | 12.2 |
| 4 | 27.0 | 23.5 |
| 5 To a great extent | 15.9 | 21.4 |

Table XVIII shows the comparison in the way current and former students perceive the influence of language skills on their studies. Again, there are some considerable differences between the two groups.

e. Academic Satisfaction

This area was addressed with question number 13 (satisfaction with academic experience), with questions number 7 and 8 (the way graduates were selected to attend their curricula) and with question number 14 (the 3 most useful and the 3 least useful courses attended at NPS). Figure 4.17 shows the distribution of responses to question 13. About 48 percent of the graduates were academically very much satisfied, 38.8 percent satisfied, 11.2 percent neither satisfied nor dissatisfied, and only 2 percent were

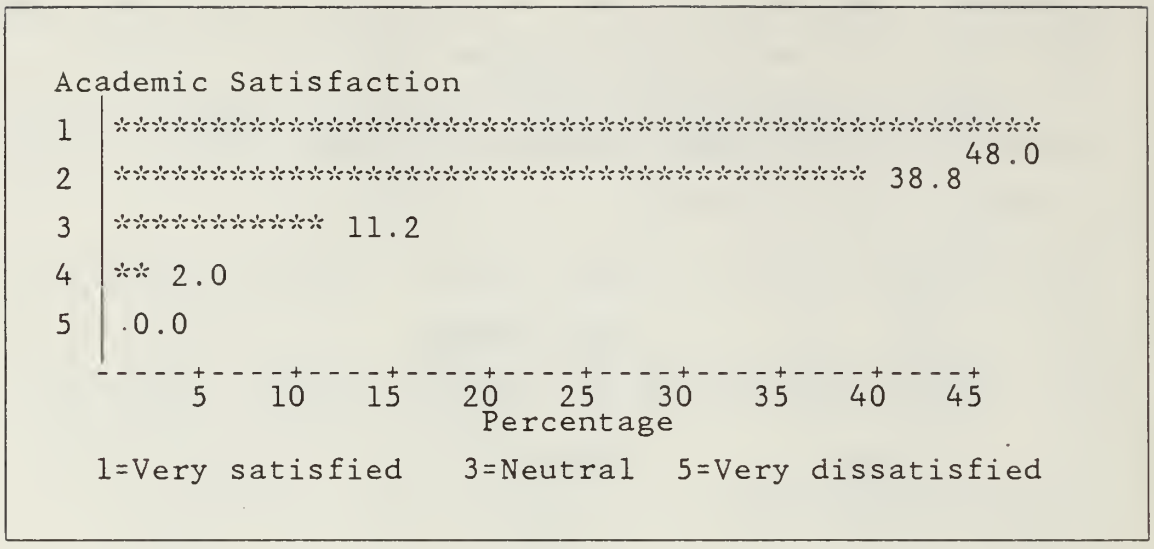


Figure 4.17 Academic Satisfaction (B).

dissatisfied. As with questionnaire A, nobody used the last rating, very much dissatisfied, and the majority of persons, 86.8 percent, were satisfied. A very small part, only two officers (2 percent) were dissatisfied. Here again, there are great differences in the way this item is seen by current and former students. This comparison is depicted in Table XIX.

The percentage of graduates very much satisfied with their academic experience is two-and-one-half times greater than that of current students. The percentage of neutrals is more than the double in current students and the percentage of dissatisfied is almost four times greater in current students when compared with graduates. Time is considered to be the only reasonable explanation for these discrepancies.

Question 14 asked the graduate to list the 3 most useful and the 3 least useful courses attended while at NPS. This list is shown in Appendix B.

TABLE XIX

Academic Satisfaction--Comparison (in %)

| Ratings | Students (A) | Graduates (B) |
|---|---|---|
| 1 Very much satisfied | 18.9 | 48.0 |
| 2 Satisfied | 46.4 | 38.8 |
| 3 Neutral | 26.8 | 11.2 |
| 4 Dissatisfied | 7.9 | 2.0 |
| 5 Very much dissatisfied | 0.0 | 0.0 |

f. Interpersonal Relations

Both questionnaires A and B focus on interpersonal relations but in a slightly different manner. Questionnaire A asked students about people with whom they spend their free time. Questionnaire B, on the other hand, asked graduates about their continuing personal contacts with people they met while at NPS. For coding purposes this question (number 15) was divided into four subquestions. The first asked the graduate if he still had any contacts with professors, the second with people outside the School, the third with colleagues from school, and the fourth with fellow-countrymen abroad. The graduate could have chosen as many items as applicable. Contact with professors was reported by 26.7 percent of the graduates, with people outside the school by 29.7 percent, with colleagues from school by 46.5 percent, and with fellow-countrymen abroad by 47.5 percent.

In Chapter III it was mentioned that the peculiarity of the life on campus in a small and quiet town operates to create special ties of friendship between people,

and that the experiences and contacts of foreign students--with American and other international students, with professors, and with persons in the community--could be among the most cherished NPS experiences. In fact, it seems they are. Mainly with colleagues from school and fellow-countrymen abroad, the level of actual contacts is significantly high, with the proportion of graduates who reported these contacts nearly fifty percent. Even with professors and people outside the school, these contacts are relatively high (nearly 30 percent).

g. Living in a New Culture

The purpose of this area, addressed with questions 16 and 17, is about the same as that of questionnaire A--but with the questions formulated in another way.

Question 16 asked the graduate to specify what he especially enjoyed about living in Monterey. Nine graduates simply wrote: "everything." The climate was mentioned by 41 graduates (or 40.6 percent). Twenty graduates reported the beautiful scenery in this area as what they especially enjoyed. The "Californian way of life" was mentioned by nine graduates. Just "people" or with adjectives like smiling, nice, friendly, was mentioned by fourteen graduates. Some praised the international activities, others remember the social life. Several claimed that "making friends from many countries" was the most pleasant remembrance. One wrote: "La Mesa village itself, with excellent school and activities for children." And another: "During our stay we were fortunate enough to adopt a baby." Yet another: "It was just good."

Question 17 is the opposite of question 16. It asked graduates about the problems they faced living in Monterey. Fourty seven graduates (or 46.5 percent) simply wrote: "none." Nineteen reported "housing" (finding or

rent) as the most serious problem while in Monterey. Financial problems and high cost-of-living were mentioned by eleven graduates. Too much work was a complaint made by four, and family separation by three. One wrote: "New customs and habits, different approach to daily behavior and activities (sometimes strange)." A few reported that some cultural acceptance at the start was a problem. Three mentioned the language, and another three claimed the car was a problem. One just wrote: "The end."

These graduates' opinions reinforce the foregoing "time" as the only explanation for some discrepancies. Of course, these former students faced exactly the same kind of problems that current students do, but being free from the natural anxieties and pressures of the intense student's life, they have the natural tendency to forget the bad things and just remember the good ones.

h. General Satisfaction with NPS

The last question, question number 21 asked the graduate to express his general satisfaction with NPS using a five-point scale answer from 1 (very satisfied) to 5 (very dissatisfied).

As Figure 4.18 shows, 55.4 percent of the graduates were very satisfied with the school and, implicitly, with their stay here; 38.6 percent were satisfied, and only 6 percent were neither satisfied nor dissatisfied. Nobody used the last two ratings (dissatisfied or very dissatisfied).

Table XX compares the general satisfaction with NPS as expressed by current and former students. The differences in the way general satisfaction is seen are considerable. The percentage of former students who were very satisfied is almost seven and one-half times greater than that of current students; that of satisfied is almost

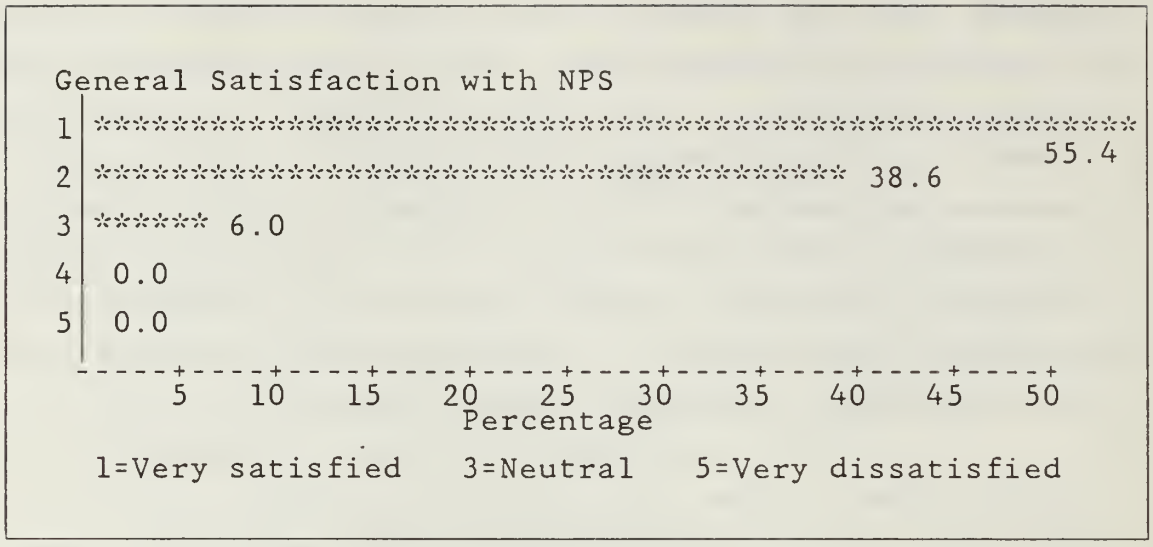


Figure 4.18 General Satisfaction with NPS (B).

TABLE XX

General Satisf. with NPS--Comparison (in %)

| Ratings | Students (A) | Graduates (B) |
|---|---|---|
| Very satisfied | 7.5 | 55.4 |
| Satisfied | 55.0 | 38.6 |
| Neutral | 28.3 | 6.0 |
| Dissatisfied | 9.2 | 0.0 |
| Very dissatisfied | 0.0 | 0.0 |

twenty percent less; and that of neutrals is about five times less. The overall percentage of satisfied people is 62.5 percent of current students against an impressive 94 percent of graduates.

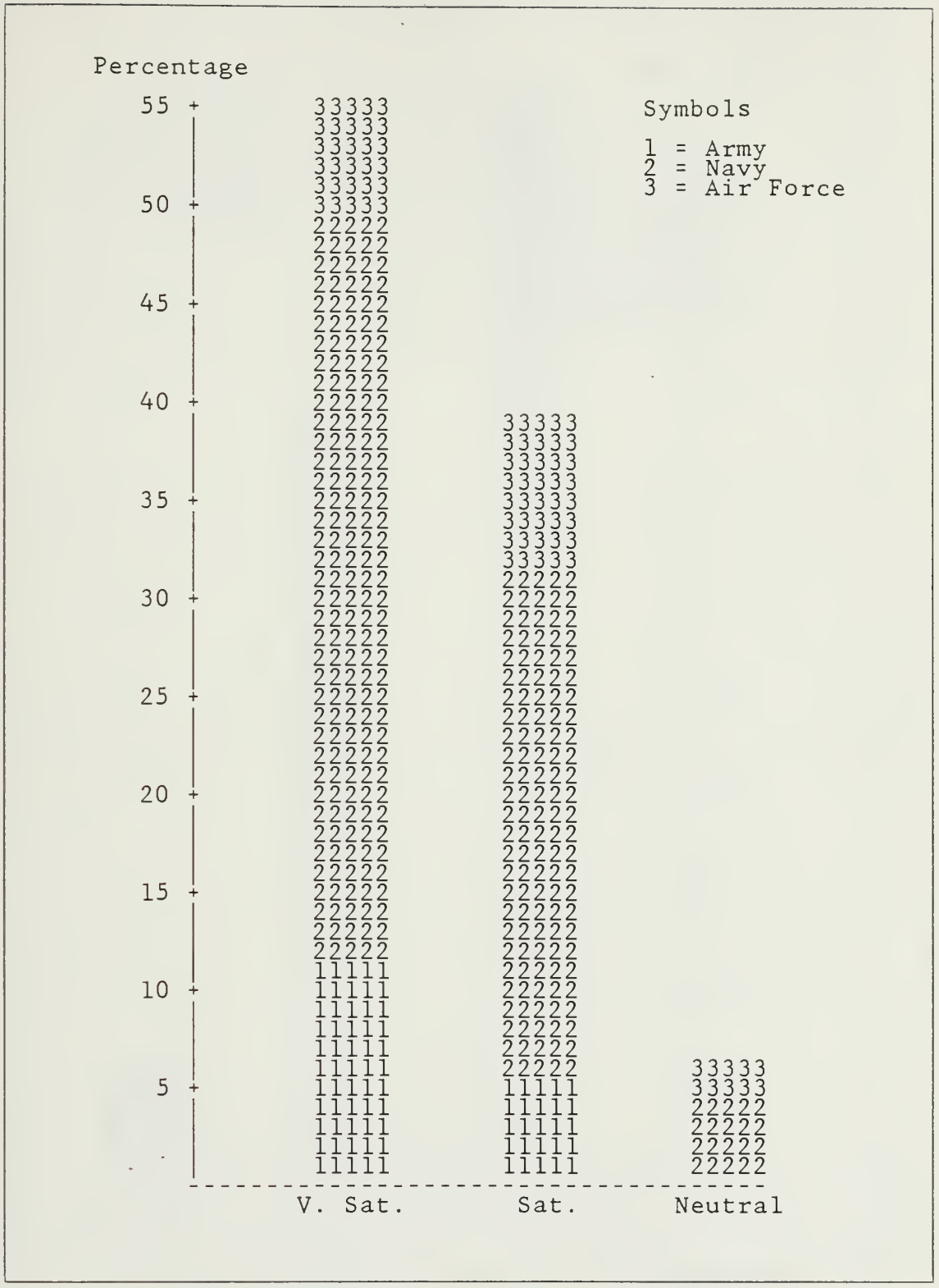


Figure 4.19 General Satisfaction with NPS (B)--by Service.

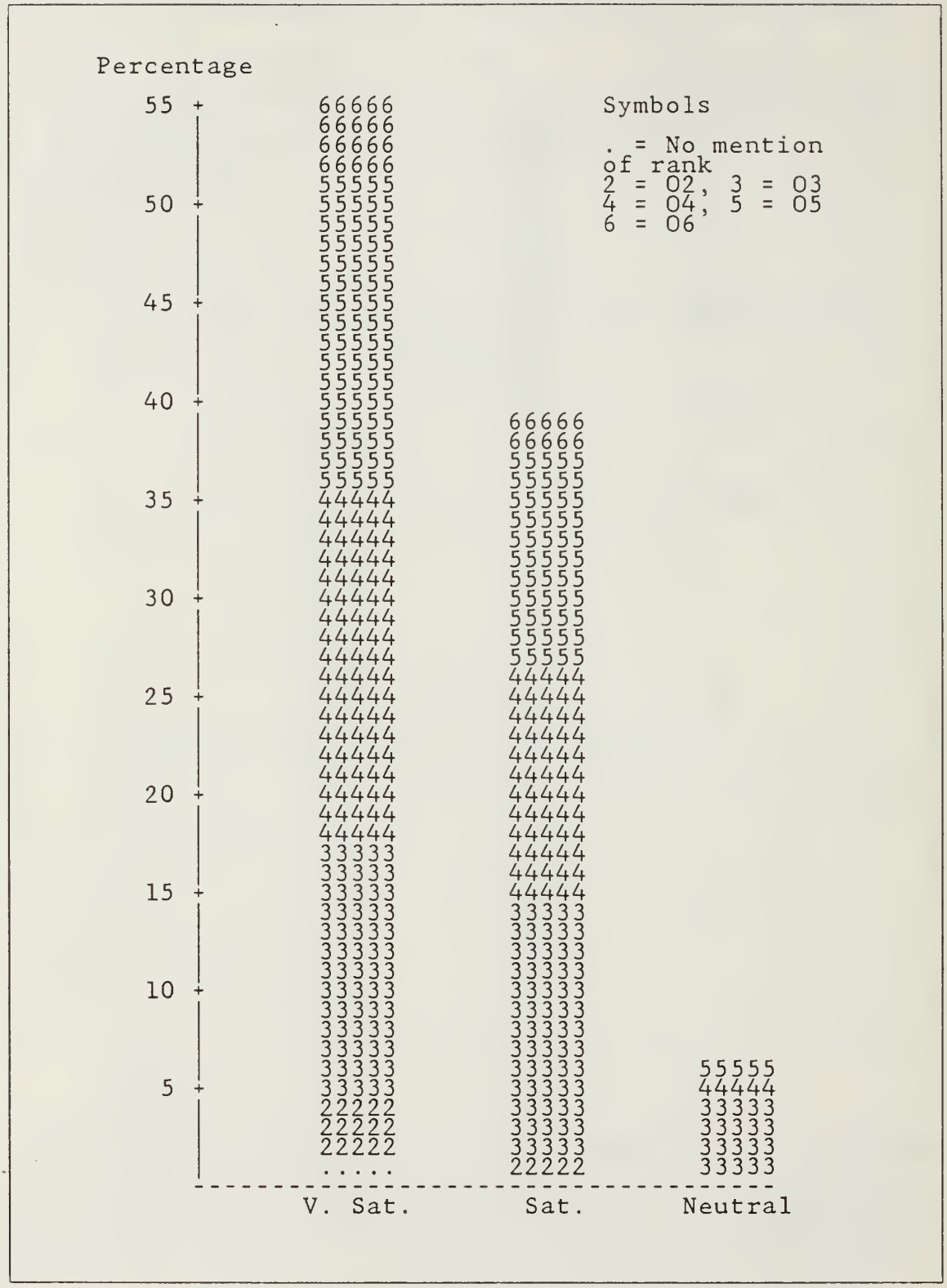


Figure 4.20 General Satisfaction with NPS (B)--by Rank.

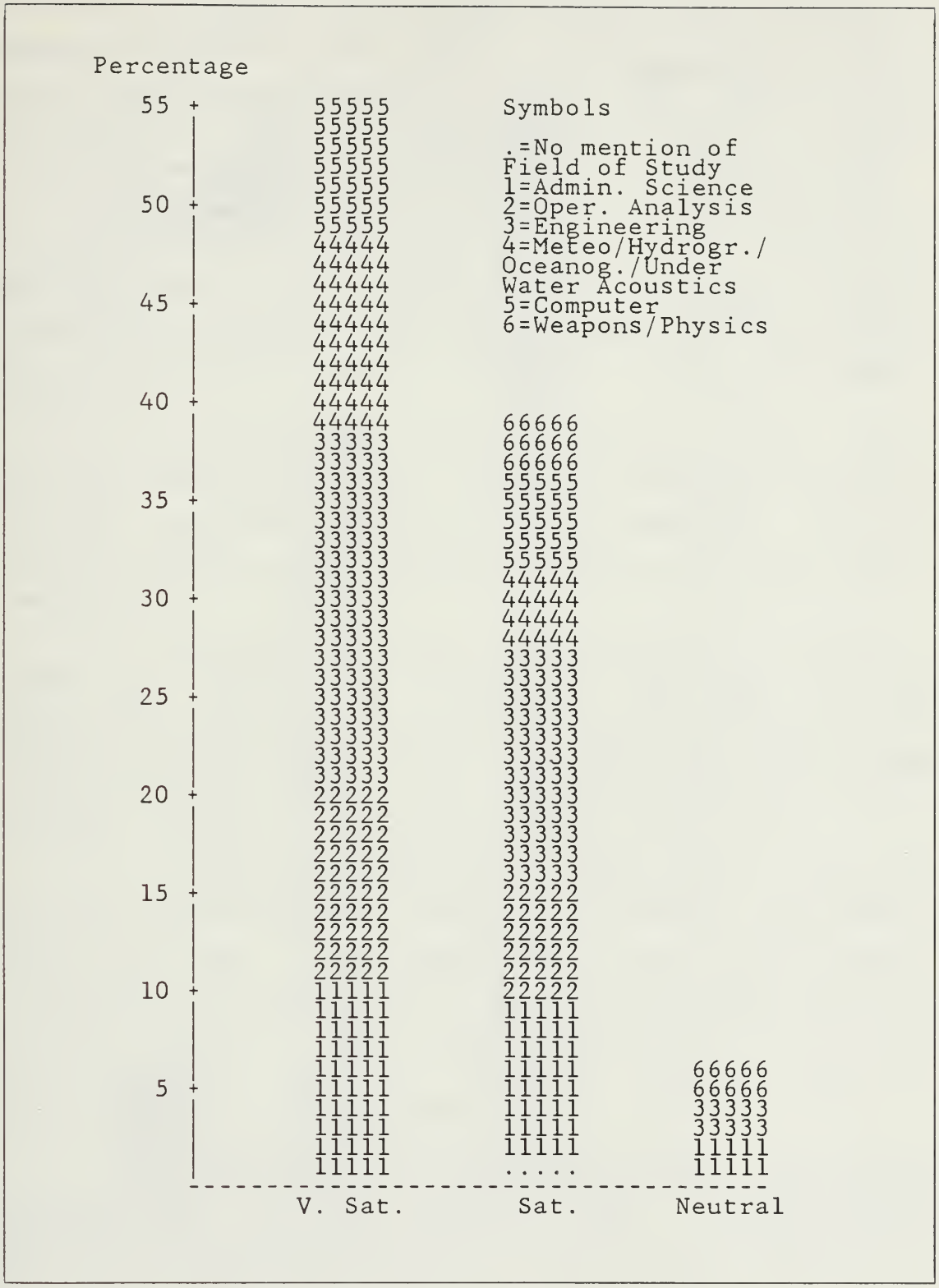


Figure 4.21 Gen. Satisf. with NPS (B)--by Field of Study.

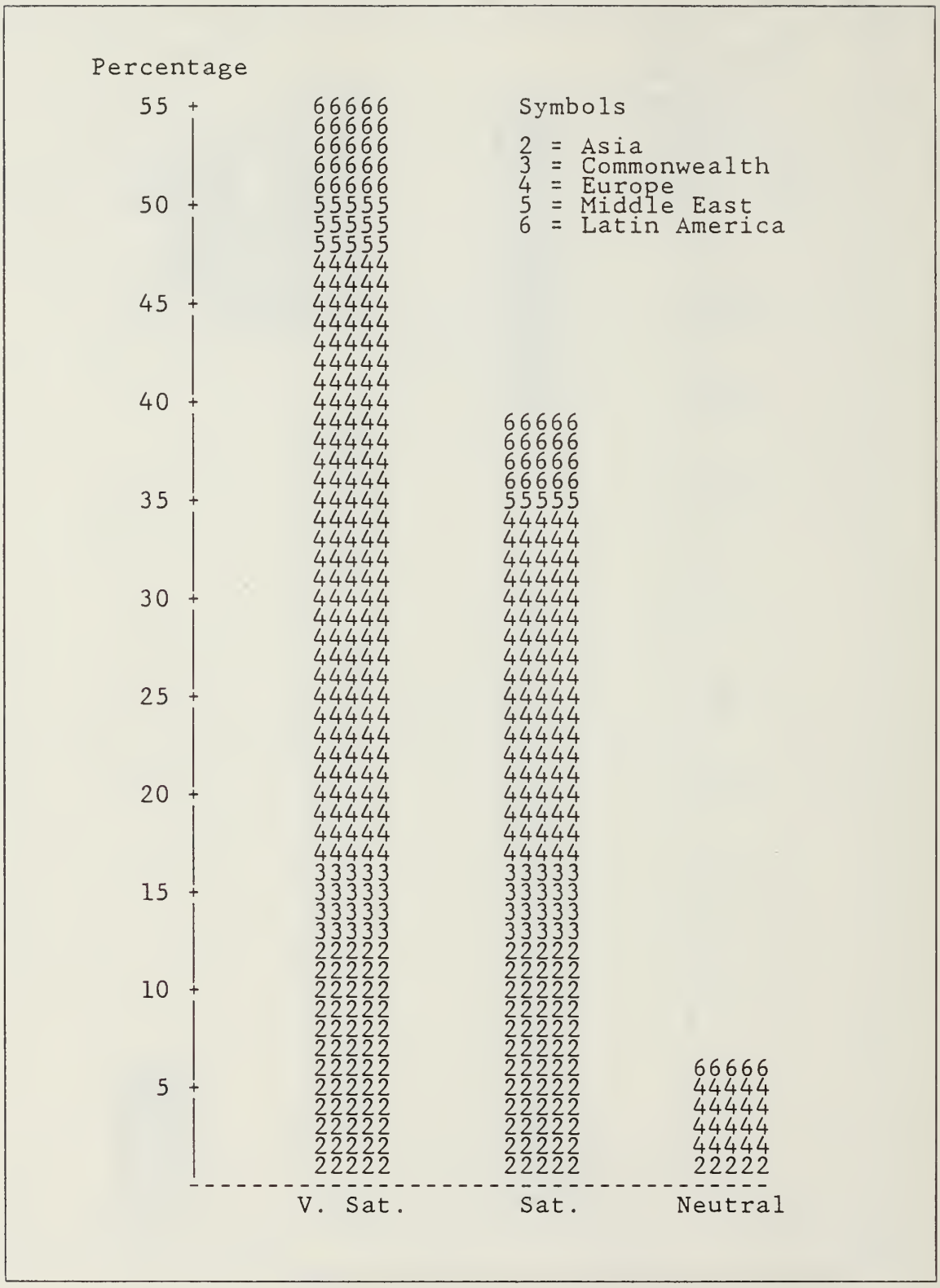


Figure 4.22 Gen. Satisf. with NPS (B)--by Geog. Region.

Figures 4.19, 4.20, 4.21, and 4.22 show the general satisfaction with NPS by service, rank, field of study, and geographic region, respectively. As with questionnaire A, there are slight differences in the way people evaluate general satisfaction depending on these factors.

Proportionately, the Army leads the group of "very satisfied" persons with 68.8 percent and it does not have neutrals. The Air Force is first in the group of "satisfied" with 47 percent, and in the group of "neutrals", too, with 11.8 percent. The Navy is in the middle position.

By rank, the "very satisfied" group is led by the O2s with 75 percent of its people followed closely by the O6s. Both O2s and O6s do not have neutrals. The O3s lead both groups of "satisfied" persons and those who are "neutral."

By field of study, proportionately, group 4 leads the rating "very satisfied" and does not have "neutrals." Group 6 does not have representation on the "very satisfied" rating, but leads the "satisfied" rating with 60 percent and leads the "neutral" rating too with 40 percent. Groups 2, 4, and 5 do not have neutrals.

Proportionately, the Middle East is the group with more "very satisfied" people (75 percent), followed by Europe and Asia. The Commonwealth leads the "satisfied" rating with 50 percent, the other 50 percent very satisfied and no "neutrals." The rating "neutral" is led by Latin America with 9.1 percent, followed by Europe with 7.6 percent and Asia with 4 percent.

Graduates were encouraged to make any personal comments about their experiences at NPS. These comments are presented in Appendix C.

## C. INTERRELATION AMONG VARIABLES

### 1. Criteria

A correlation analysis was undertaken to interpret the strength of the relationship indicated by the value "r." The criteria followed here are based on the work of Younger [Ref. 14].

According to Younger, to interpret this relationship one commonly thinks of that segment of the real-number line from -1 to 1. At the ends of the segment, minus/plus 1 indicate perfect relationships, while in the middle, at zero, there is no relationship. If we define "moderate" to be halfway between none and perfect, then moderate would be located at minus/plus 1/2. Then, perhaps minus/plus 3/4 would stand for "moderately strong" and minus/plus 1/4 would denote "weak." See Figure 4.23.

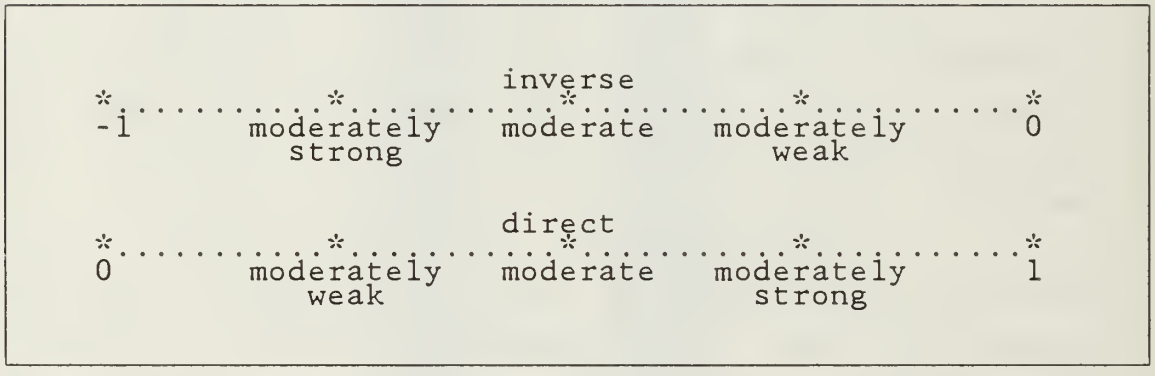


Figure 4.23 Criteria to Measure the Relationship.

As mentioned earlier, the package used to perform this statistical analysis was the Statistical Analysis System (SAS), and the statistic to perform the correlation analysis was the Pearson product-moment correlation [Ref. 15].

For those variables considered the most important, the association was also analyzed by service, rank, field of study, and geographic region.

2. Questionnaire A (Students)

As might be expected, academic satisfaction is positively related to material covered in courses taken, to school requirements, to professors, and to the general satisfaction with NPS. The degree of association is moderately strong with the material covered in courses taken and moderate with the other variables. Academic satisfaction is also moderately weak related to the variable writing in English. These appear to be meaningful and expected relations. Since the international student comes here for special training, it seems sensible to say that academic satisfaction should be strongly related to the material covered in courses taken and, to a certain extent, to the satisfaction with professors, and that academic satisfaction should lead to a general satisfaction with the stay here. It was originally thought that a better command of the English language should lead also to a greater academic satisfaction but, on the whole, it does not. However, when academic satisfaction is analyzed by service, rank, field of study, and geographic region some significant differences are found.

By service, the academic satisfaction of Army people is moderately strong related to the general satisfaction with NPS and, in a lesser degree, to the material covered in courses taken and to the satisfaction with professors. The association between academic satisfaction and the school requirements is moderate, and moderately weak with reading and writing in English. There is also a moderately weak association between academic satisfaction and the free time spent with U.S. nationals.

For Navy people, the strongest association (moderately strong) is with the material covered in courses taken and moderate with the general satisfaction with NPS, the school requirements, and the satisfaction with professors. For the first time, an association (moderately weak) was found between academic satisfaction and the present housing arrangement.

For Air Force people the relations are substantially different. The strongest (moderately strong) is with the material covered in courses taken, followed closely by speaking in English. Academic satisfaction is also positively related to writing, listening, and reading in English and to the satisfaction with professors. On the other side the association between academic satisfaction and general satisfaction is only moderately weak as well as with the free time spent with U.S. nationals and with the school requirements.

When these relationships are analyzed by rank, significant differences are also found. The academic satisfaction of O2s is moderately strong related to the satisfaction with professors, to the school requirements, and to the material covered in courses taken. For the first time, a moderate association is found between academic satisfaction and the adequacy of financial resources, and a moderately weak association is found with the negative influence of inadequate financial support. Interestingly, there is no association between academic satisfaction and general satisfaction with NPS.

The academic satisfaction of O3s is moderately strong associated with the material covered in courses taken and with the general satisfaction with NPS. It is moderately related to the satisfaction with professors and to the ability to write in English, and moderately weak related to speaking, listening, and reading in English and to the free

time spent with U.S. nationals. An inverse, moderately weak association was found with the free time spent with people of the same nationality, for which there is no plausible explanation.

For O4s, the academic satisfaction is moderately strong related to the material covered in courses taken and moderately related to the satisfaction with professors and general satisfaction. The association between academic satisfaction and the school requirements is moderately weak as well as with the satisfaction with the present housing arrangement. An inverse, moderately weak association was found with the adequacy of financial resources which only can be explained as meaning that the academic satisfaction decreases with the increase of financial problems.

The group of O5s presents great differences in relation to the others. This group gives a great importance to the variable perceived accorded personal status being the first item, maturity, almost perfectly related to academic satisfaction. Academic satisfaction is also moderately strong related to the general satisfaction with NPS, as well as to the items intelligence and background. A moderate association was also found with the material covered in courses taken, with the item academic performance, the school requirements, the adequacy of financial resources, the satisfaction with professors, and the satisfaction with the present housing arrangement.

The O6s were not included in this analysis as a separate group since they are so very small.

By field of study, the academic satisfaction of students from Administrative Sciences is moderately related to the material covered in courses taken and to the general satisfaction with NPS. An inverse, moderate association was found between academic satisfaction and writing, speaking, listening, and reading in English, and by this

order. Since the Administrative Sciences curricula are those where the English demands are relatively greater, that inverse relationship may be explained as meaning that the academic satisfaction increases with the decrease in problems faced with those variables. Some association was also found between academic satisfaction and satisfaction with the present housing arrangement, with the satisfaction with professors, and with the school requirements.

The academic satisfaction of students from Operations Analysis is strongly related to the material covered in courses taken and to the school requirements, and moderately strong to the satisfaction with professors. For the first time, a moderate association was found between academic satisfaction and the degree of formality of the student-professor relationships. The degree of association with the adequacy of financial resources and its influence is moderately weak as well as with the general satisfaction with NPS.

For Engineering students, the strongest association with academic satisfaction (slightly above moderately strong) is with the material covered in courses taken and with the satisfaction with professors. A moderate association was found between the school requirements and general satisfaction, and slightly below moderate an association between the ability to speak and write in English. For the first time, some association was found between academic satisfaction and the variable school's help in finding housing and the variable career opportunities.

For the group of students from Hydrography, Oceanography, Meteorology, and Underwater Acoustics, the strongest association is with the material covered in courses taken, followed by the general satisfaction as moderately strong associated with academic satisfaction. The degree of association with the school requirements is

moderate. The item perceived accorded personal status-personality, appears to be moderately associated with academic satisfaction.

The academic satisfaction of the group of students from Computers is moderately strong related to the satisfaction with professors and to the general satisfaction with NPS, and moderately related to the material covered in courses taken. A moderately weak association was also found between the items maturity and intelligence (of the variable perceived accorded personal status) and academic satisfaction. Moderately weak associated are also the school requirements, the effect of language skills on studies, and the ability to read in English.

Finally, with the students from Weapons/Physics, a perfect association was found between academic satisfaction and general satisfaction, although this perfect relation may be due to chance. Academic satisfaction is also moderately strong related to the material covered in courses taken and to the satisfaction with the present housing arrangement. Satisfaction with professors, school requirements, and free time spent with people of other nationalities are moderately related to academic satisfaction. A moderately weak association was found with the items personality and intelligence (of the variable perceived accorded personal status) as well as with the adequacy of financial resources and the ability to listening to English.

Since students from Africa constitute a very small group they were excluded from the analysis by geographic region.

The academic satisfaction of students from Asia is positively moderate related to the material covered in courses taken, to the school requirements, to the item academic performance of the variable perceived accorded personal status, and to the general satisfaction with NPS.

It is moderately weak related to the present housing arrangement, to the ability to read in English, and to the satisfaction with professors. An inverse, moderately weak association was found with the financial resources, which may mean that their academic satisfaction decreases with the increase in money worries.

For students from the Commonwealth, there is a strong relationship between academic satisfaction and general satisfaction as well as with the material covered in courses taken and with the satisfaction with professors. In relation to the free time spent with people of the same nationality and to the school requirements, the relationship is moderate. An inverse, moderate association was found between academic satisfaction and career opportunities and with the adequacy of financial resources for which we cannot find an interpretation. The former does not make sense and the latter is understandable since this group of students did not mention any kind of financial problems. However, not much importance is given to these relationships, since the group is relatively small and the findings may be due to chance.

For European students, the strongest association is with the material covered in courses taken, followed by a moderately strong with the satisfaction with professors. Their academic satisfaction is also moderately related to the general satisfaction with NPS and to the school requirements while moderately weak related to the free time spent with people of the same nationality, to the item maturity of the variable perceived accorded personal status, and to the ability to write in English.

For the Middle East students, academic satisfaction is strongly related to the general satisfaction and to the school requirements. There is a moderately strong association with financial resources , with the item academic

performance of the variable perceived accorded personal status, and with the material covered in courses taken. A moderate association was also found with career opportunities and with the ability to listen to English.

The last group in this analysis is Latin America. The degree of association between academic satisfaction and material covered in courses taken, school requirements, English proficiency (all items), and general satisfaction is very strong. Although these relationships are logical, not much importance is given to the strength of the finding because this group of students is relatively small and the results may be due to chance.

In summary, it can be said that the association between the variable academic satisfaction, a very important one, and the other variables is as might be expected. The only exception is, as stated before, related to the English proficiency. In order to achieve academically, students must have, among other things, sufficient English ability, since it is difficult to understand how any student could have a successful academic experience in the United States without a good command of the English language. Despite the question being formulated for the student expressing his satisfaction with his experience at NPS and not to relate his English proficiency to his academic performance, it was originally thought that a relationship would exist between them. On the whole, there are no apparent relationships, however, as seen, when analyzed separately by groups, some were found to whom it is very important.

The next variable is satisfaction with the material covered in courses taken, another variable of the area that was called academic satisfaction.

As seen, this variable is moderately strong related to academic satisfaction and it is also related to the school requirements in a moderate degree. A degree of

association between moderate and moderately weak was also found with general satisfaction and satisfaction with professors. All these associations could also be expected, since they are nothing more than common logic.

The same reasoning can be applied to the next two variables. The correlation analysis does not offer any surprise. So, the satisfaction with school requirements is positively moderate related to the material covered in courses taken and academic satisfaction, and moderately weak related to the satisfaction with professors and general satisfaction.

The satisfaction with professors is moderately associated with the material covered in courses taken, with academic satisfaction, and with general satisfaction, and moderately weak associated with satisfaction with the school requirements.

The variable student-professor relationships does not have any particular association with any other variable(s). At first sight it seems that it would be related to academic satisfaction but, because this is a very subjective matter, the fact that this relationship being considered as formal does not necessary mean that it is bad and--vice versa--if considered informal does not mean that it is good. They are just different points of view without a particular influence in academic or even general satisfaction. However, this inference is only true for the correlation analysis. As we will see later, in the multivariate analysis, this variable will function as a predictor for some models, and this will hapen with some other variables. In the correlation analysis they do not show any particular relationship and, yet, they will be included in regression models as predictors.

So far, the most surprising finding is with the variable career opportunities. Common logic would

certainly dictate that career opportunities would function as a kind of motivation and, theoretically, it would be highly associated at least, with general satisfaction. Six out of ten students are fairly optimistic about their future opportunities back home mainly because they came to NPS to get training in a special field not available at home so, it would be enough reason to be highly satisfied with their stay here. But the fact is that career opportunities and general satisfaction with NPS are only moderately weak associated, and this is the only significant relationship that was found.

Adequacy of financial resources is moderately related to the variable influence of financial resources on studies and to the home country, and moderately weak related to the satisfaction with the present housing arrangement. All this might be expected, except the association between home country and adequacy of financial resources that would be expected to be greater. Another association that could be expected to exist and it does not, is with the general satisfaction with NPS. When analyzed by geographic region the only group of students that shows some association between these two variables is the Middle East. By field of study, moderately weak association was also found for students from Operations Analysis, Engineering, and Weapons/Physics. By rank, this association is moderately strong for two groups--O2s and O5s. In summary, it can be said that, on the whole, general satisfaction with NPS does not have much to do with the adequacy/inadequacy of financial resources, despite almost two fifths of the sample having reported financial problems.

For the next variable, language proficiency, and as might be expected, all four items, speaking, listening, writing, and reading are strongly related to one another. Another association found, and that also could be expected

to be found, was with the free time spent with U.S. nationals. Besides other factors such as personal flexibility, reported ease in making friends, and a living situation with opportunities for association, common sense dictates that a good command of the English language would enable one to do better in the social field. On the other hand, it could be expected that, because contact with Americans can be an important part of a successful sojourn, language proficiency would be related to academic satisfaction as well as general satisfaction. But, while the relationship between language proficiency and academic satisfaction is weak with general satisfaction it is nonexistent. Students are satisfied or not, independently of their language skills.

Satisfaction with the present housing arrangement is another variable that, in function of the foresaid, would be expected to have strong relationships, but is only moderately associated with the adequacy of financial resources, with the home country, and with the general satisfaction with NPS.

The only association found with the free time spent with U.S. nationals is with English proficiency. The degree of association is moderate and this makes sense since students with language difficulties are less apt to spend time with Americans or make close friends with them. People with language difficulties are restricted in their range of contact.

For the next two variables, free time spent with people of the same nationality and of other nationalities, there was not found any particular association.

The five items of the variable perceived accorded personal status are, as could be expected, moderately related to one another, and moderately weak related to the general satisfaction with NPS and to the adequacy of

financial resources. It was originally thought, that this variable would be strongly related to general satisfaction but, on the whole, it is not.

After all this analysis the association between the general satisfaction with NPS and the other variables seems obvious. So, general satisfaction is positively moderate related to academic satisfaction, to the material covered in courses taken, to the satisfaction with professors, and to the school requirements. In a lesser degree (moderately weak), it is related to the satisfaction with the present housing arrangement and to career opportunities.

Again, if we analyze these relationships separately by service, rank, field of study, and geographic region we find significative differences, mainly in the strength of the association.

By service, the general satisfaction with NPS of Army people is moderately strong related to academic satisfaction and to the satisfaction with professors, moderately related to the material covered in courses taken and to the school requirements, and moderately weak related to career opportunities.

The strength of association is very different for Navy people. It is only moderately associated with academic satisfaction and material covered in courses taken, and moderately weak with the satisfaction with the present housing arrangement, with the satisfaction with professors, and with the school requirements.

For Air Force people the strongest association (moderate) is with career opportunities followed closely by the adequacy of financial resources. It is also moderately associated with the material covered in courses taken, with listening to and speaking in English, and with the school requirements.

By rank, is where the differences are greater. For O2s the strongest association (moderately strong), is with the adequacy of financial resources, followed by the free time spent with people of the same nationality and the satisfaction with professors, the latter in a moderate degree. Moderately weak associated with the general satisfaction with NPS we found career opportunities and satisfaction with the present housing arrangement.

For O3s, the general satisfaction with NPS is moderately strong related to academic satisfaction, moderately related to the satisfaction with professors, to the material covered in courses taken, and to the school requirements, and moderately weak related to the ability to write in English.

For O4s, the general satisfaction with NPS is only moderately related to academic satisfaction and to the satisfaction with professors as well as to the present housing arrangement and material covered in courses taken. The school requirements and the ability to write and read in English is only moderately weak related to the general satisfaction with NPS.

For O5s, these relationships are substantially different, because they give great importance to the variable perceived accorded personal status. So, the item maturity is strongly related to the general satisfaction with NPS, and for the other four items (academic performance, intelligence, personality, and background) the relation is moderate. It is not a surprise the relatively high importance given to these items if we take into account their age and position. Moderately strong related are also academic satisfaction and the adequacy of financial resources, and moderately the satisfaction with the present housing arrangement, the material covered in courses taken, and career opportunities.

By field of study, the general satisfaction with NPS of students from Administrative Sciences is moderately related to academic satisfaction, to the career opportunities, to the present housing arrangement, and to the school requirements, and moderately weak to the material covered in courses taken and to the satisfaction with professors.

For the group of students from Operations Analysis, the strongest association with the general satisfaction with NPS is with the variable career opportunities followed closely by the item academic performance, both in a moderate degree. Moderately weak associated are the variables adequacy of financial resources, the free time spent with people of the same nationality, the ability to listen to English, and the free time spent with American nationals.

For Engineering students, the general satisfaction with NPS is moderately strong related to the satisfaction with professors, and moderately related to the material covered in courses taken, to the academic satisfaction, and to the school requirements.

For the group of students from Hydrography, Oceanography, Underwater Acoustics, and Meteorology, the strongest association (moderately strong) is with the material covered in courses taken. Moderately strong associated with the general satisfaction with NPS are also academic satisfaction and the school requirements, moderately the items personality, maturity, and background, and moderately weak the item academic performance.

For students from Computers, the general satisfaction with NPS is moderately strong related to the satisfaction with professors and to academic satisfaction, moderately related to the items maturity, academic performance, and background, and moderately weak related to career opportunities, to the school requirements, and to the satisfaction with the present housing arrangement.

Finally, for the group of students from Weapons/Physics, the general satisfaction with NPS is perfectly related to academic satisfaction, moderately strong related to the material covered in courses taken and to the satisfaction with the present housing arrangement, and moderately to the satisfaction with professors and to the school requirements. A moderately weak association was also found between general satisfaction and the items personality and intelligence (of the variable perceived accorded personal status), with the adequacy of financial resources, and the ability to listen to English.

By geographic region, the general satisfaction with NPS of students from Asia is moderately related to the satisfaction with professors, to the school requirements, to academic satisfaction, and to the material covered in courses taken, and moderately weak related to the satisfaction with the present housing arrangement and to the ability to read in English.

For the group of students from the Commonwealth, the association between the general satisfaction with NPS and the satisfaction with professors, the material covered in courses taken, and academic satisfaction is very strong. Moderately strong, is the association with the free time spent with people of the same nationality, and moderately weak the association with the school requirements. An inverse, moderately strong association was also found between general satisfaction and the adequacy of financial resources and with career opportunities, for which we are not able to find an interpretation. This is the same kind of contradiction found before.

For European students, the stongest association (moderate) is with the item maturity (of the variable perceived accorded personal status), followed closely by academic satisfaction. Moderately weak associated with the

general satisfaction with NPS we found the material covered in courses taken, the item personality, the time spent with U.S. nationals, and the school requirements.

For the group of students from the Middle East, there is a strong association between the general satisfaction with NPS and career opportunities as well as with academic satisfaction and the material covered in courses taken. The degree of association with the satisfaction with professors and with the school requirements is moderately strong, and moderately with the adequacy of financial resources.

Finally, for the group of students from Latin America, the strongest association is with the ability to speak and write in English followed closely by the material covered in courses taken, the school requirements, and academic satisfaction. The adequacy of financial resources is only moderately associated with the general satisfaction with NPS, and the satisfaction with professors does not have any association.

The overall finding of this analysis is that international students, on the whole, reported that they are satisfied with their sojourn, although they are more pleased with academic than nonacademic aspects of their experience.

While generally satisfied, however, it is clear that international students felt themselves to be apart from Americans and U.S. society, rather than integrated into it in any sense. As shown before, almost 32 percent reported serious problems in speaking in English and a smaller percentage, around 17 percent, in listening to and writing in English. It seems obvious that these students are less apt to spend free time with Americans or make close friends with them. But even taking into account all sample, which includes also students who did not report special problems with the English language, as shown, almost nine percent

reported no contact at all with American nationals, 67 percent reported ten percent or less, and 84 percent reported twenty five percent or less of their free time spent with U.S. nationals. It is clear that international students emphasize goals in the academic area and they simply do not have enough time to interact with Americans or become integrated into U.S. society. The tendency is to concentrate on academic work, particularly if there is a feeling of inadequacy with English.

But this is not surprising. If we consider that the student's life at NPS is not easy, the experience of being an international student is, frequently, a more difficult one since he is surrounded by many kinds of pressures and a constant demand: succeed.

As we remember, 38 percent reported financial problems, 37 percent are dissatisfied with their present housing arrangement, 32 percent reported problems with speaking in English, almost 23 percent considered the most difficult problem about living in Monterey to find time for family, and 17 percent to find time for study. Despite all these problems their influence in academic or general satisfaction is pratically nonexistent, or perhaps it makes better sense to say that it was not found a statistically significant relationship.

3. Questionnaire B (Graduates)

Since this questionnaire was designed in a different way, with several open-ended questions and others not very adequate to a correlation analysis, this analysis was limited to questions number 1 (usefulness of NPS studies), 2 (receptivity of peers and superiors to the adoption of innovations), 6 (career opportunities), 9 (adequacy of financial resources), 11 (language proficiency), 13 (academic satisfaction), and 21 (general satisfaction with NPS).

The variable usefulness of NPS studies is moderately related to the superiors' receptivity to the adoption of innovations and to the general satisfaction with NPS, and moderately weak related to the peers' receptivity to the adoption of innovations, to career opportunities, and to the academic satisfaction. All these associations could be expected except the degree of association. The final objective in coming to NPS is to learn in order to apply the knowledge back home. This would be, and in fact is, sufficient motive to be highly satisfied with the stay here. As seen earlier, 88 percent of the graduates apply, to varying degrees, what they learned at NPS in their present job and an impressive 94 percent were satisfied with their stay at NPS, the reason why it was originally thought that the degree of association with the general satisfaction with NPS would be much stronger.

The peers' and superiors' receptivity to the adoption of innovations are moderately related to one another and both to the assessment of the efforts done to transmit the NPS experience. They are also moderately weak related to the usefulness of NPS studies.

The variable career opportunities, is moderately weak related to the usefulness of NPS studies and to the general satisfaction with NPS. This is another surprising finding. The associations themselves, are correct and should be expected but the strength of association is far from that. For more than 66 percent of the graduates their stay at NPS affected, to their advantage, their careers. So, a much stronger association should be expected between these variables.

The variable adequacy of financial resources is moderately strong associated with the variable influence of financial resources on studies, and moderately associated with the home countries, as with questionnaire A. Another

similarity with questionnaire A is the complete lack of association between the adequacy of financial resources and the general satisfaction with NPS, but here, the percentage of graduates who reported financial problems (16 percent), is much less than that of current students (almost 38 percent).

When analyzed separately, a moderately weak association was found between financial resources and academic satisfaction for Army people and a moderately weak association, too, between adequacy of financial resources and the general satisfaction with NPS and with academic satisfaction, for O4s. By field of study, for graduates from Computers there is a moderately weak association between adequacy of financial resources and academic satisfaction and a moderately strong association between the same variables for graduates from Weapons/Physics. For the latter group of graduates, an inverse, moderate association was also found between adequacy of financial resources and the general satisfaction with NPS, whose only interpretation is as meaning that their satisfaction decreased with the increase in financial problems. By geographic region, for European graduates there is a moderate association between academic satisfaction and adequacy of financial resources, the same hapening for graduates from the Middle East. For Latin American graduates, the relationship between adequacy of financial resources and academic satisfaction, and also with the general satisfaction with NPS, is negatively moderate weak, which may mean that their satisfaction was affected by money worries.

All four items of the variable language proficiency are very strongly interrelated with one another and, of course, with the influence on studies and these are the only relationships found. Language proficiency is neither significantly related to academic satisfaction nor to the

general satisfaction with NPS, which means that graduates were satisfied with the school and with their stay here, independently their language skills.

Academic satisfaction, a very important variable, is positively moderate strong related to the general satisfaction with NPS, and moderately weak to the assessment of the effort done to transmit the NPS experience and to the usefulness of NPS studies.

These findings confirm the previous ones. More than 86 percent of the graduates reported they were satisfied or very satisfied with their academic experience at NPS and this, independently of the problems that, eventually, they may have had faced. Analyzed separately, only for Army people there is a moderate association between academic satisfaction and the adequacy of financial resources, and for Air Force people a moderate association, too, between academic satisfaction and language skills. By rank, only in the group of O4s was there found a moderate association between academic satisfaction and adequacy of financial resources, and a moderately weak with writing and reading in English. By field of study, Engineering graduates have also a moderate association between academic satisfaction and adequacy of financial resources, for Computer graduates this relationship is moderately weak, and for Weapons/Physics graduates, moderately strong. By geographic region, for graduates from Asia, the strongest association, besides general satisfaction, is with the ability to read in English (moderate), for European graduates is with speaking in English (moderate, too), and moderately weak with the adequacy of financial resources. For the Middle East graduates, there is a strong negative association between academic satisfaction and the ability to speak in English, which may mean their academic satisfaction was strongly affected by this item. For this group, the

association between academic satisfaction and adequacy of financial resources is moderately weak. Finally, for Latin American graduates, the relationship between academic satisfaction and the ability to write in English is moderately strong, it is moderate with the ability to speak in English, and moderately weak with the adequacy of financial resources.

Now, the associations with the last variable, the general satisfaction with NPS, are easy to predict. It is moderately strong related to academic satisfaction, and moderately weak to the usefulness of NPS studies, to the assessment of the efforts done to transmit the NPS experience, and to the career opportunities. A separate analysis for this variable gave results that are similar to academic satisfaction.

In the preceding section, when analyzing some discrepancies in the way current students and graduates see the same variable, we argued that "time" was the only logical explanation for those discrepancies. The same reasoning applies here. They finished their courses and they went back home full of expectations. They applied (apply) what they learned at NPS, suggested innovations and made (make) efforts to transmit their NPS experience to their subordinates, peers, and superiors. They came to learn and they are pleased with what they learned. The objective was reached. No wonder the only significant relationship with the general satisfaction with NPS is academic satisfaction, since other variables that could also have contributed to this general satisfaction, did not enter this analysis.

## D. MULTIVARIATE ANALYSIS

### 1. Causality and Multicollinearity

To this point the emphasis has been on associating two variables in a paired relationship. But, as Kerlinger [Ref. 16] points out, behavioral problems are almost all multivariate in nature and cannot be solved with a bivariate approach that is, an approach that considers only one independent and one dependent variable at a time.

The two most common techniques used in multivariate analysis are the multiple regression analysis, to derive predictive models, and factor analysis, as a way of reducing a large number of variables to a smaller number by telling which belong together and which seem to measure the same thing [Ref. 17].

But with the regression analysis we faced two problems: one, that of causality; the other, the multicollinearity.

According to Babbie and Huitt [Ref. 18], the causal approach to understanding social research requires the adoption of a deterministic image of human behavior, in which everything we observe is the result of prior causes. And they state that for a predictor variable associated with a criterion variable to be considered causal it must meet these three criteria: first, the cause must occur earlier than the effect; second, the two variables must be empirically correlated; and third, the observed relationship must not be attributable to the effect of some other variable.

On the other side, Kerlinger citing Blalock, wrote that the study of cause and causation is an endless maze because the word "cause" has surplus meaning and metaphysical overtones. He points out, too, that when a researcher talks of a relation between p and q he hopes or believes that p causes q, but no amount of evidence can demonstrate that p does cause q.

In fact, some variables raised the question of what causes what or does academic satisfaction or general satisfaction with NPS lead to those variables. But, since the intention of this analysis is not to derive a mathematical model to predict academic or general satisfaction but, instead, to try to find a small set of variables which "best" explain those satisfactions, we are going to use all variables in the regression analysis with general satisfaction with NPS and discard from the regression analysis with academic satisfaction those variables related to the perceived accorded personal status and general satisfaction with NPS.

Another difficulty with multiple regression analysis is that of multicollinearity--the situation where some or all of the independent variables are very highly correlated.

There is no definitive answers to specify how high can intercorrelations be acceptable between independent variables. Emory [Ref. 17], advises that correlations at a 0.8 or greater level should be dealt with one of two ways: (1) choose one of the variables and delete the other or (2) create a new variable which is a composite of the highly intercorrelated variables and use this new variable in place of its components.

In this study correlations at or above 0.8 are very rare.

2. Academic Satisfaction

Since questionnaire B (graduates) has several open-ended questions and the others are not suitable for academic satisfaction analysis, this will be only made for questionnaire A (Students).

In trying to account for changes in the dependent variable all possible regressions, R-Square and Stepwise techniques, were used as exploratory methods to choose

variables for building a regression model. Using what is generally called the parsimonious technique, which seeks to provide the greatest amount of explanation with the minimum number of variables, this group of five variables was selected as that which "best" explains academic satisfaction: satisfaction with the material covered in courses taken, satisfaction with professors, satisfaction with the present housing arrangement, ability to write in English, and satisfaction with school requirements. The criteria were based in a careful analysis of the FORWARD selection and MAXR options and in the improvement in the R-Square. The sixth variable to enter the model only improved the R-Square in less than two percent, so, it was decided to select only five.

Utilizing the General Linear Models (GLM) procedure for regression, this group of predictors, as a whole, is significant at the 0.0001 level, which means that we are almost one hundred percent sure that, at least one of the independent variables, is related to academic satisfaction and has a coefficient of multiple determination (R-Square) of 0.55, which means that fifty five percent of the variation in academic satisfaction can be explained by the variation in those independent variables.

When analyzed the contribution to the model of each variable it was found that all were individually significant to the model, at least at the 0.05 level, except the last one, satisfaction with the school requirements, whose level of significance is slightly higher than 0.05.

If we take as a criterion the 0.8 stated before as the higher intercorrelation acceptable between independent variables, since academic satisfaction and satisfaction with the material covered in courses taken are highly correlated but not at that level, we can conclude that this is the "best" model to explain academic satisfaction.

After all the analysis made up to this point this is not a surprise and might be expected. Since all b coefficients are positive, we can conclude that if the satisfaction in all or some of the independent variables increase the academic satisfaction will increase, too.

In the same way we did for correlation analysis we are also going to analyze the academic satisfaction separately by groups since here, too, there are some differences. Since in the previous analysis we took the "best" five predictors we are going to do the same now.

So, by service, the "best" group of five predictors for Army people is satisfaction with the material covered in courses taken, satisfaction with professors, the free time spent with people of the same nationality, satisfaction with school requirements, and the adequacy of financial resources with an R-Square of 0.73. The model,as a whole, is significant at the 0.0001 level and all b coefficients are positive except that of the variable adequacy of financial resources. This means that academic satisfaction will increase with the decrease in money worries and with the increase in the other variables, which makes sense.

For Navy people, the "best" group of five predictors is: the material covered in courses taken, satisfaction with professors, satisfaction with the present housing arrangement, satisfaction with school requirements, and career opportunities. All b coefficients are positive, the model is significant, as a whole, at the 0.0001 level, and has an R-Square of 0.64.

For Air Force people, the model is significantly different. The "best" predictors are: the satisfaction with the material covered in courses taken, the ability to speak in English, the student-professor relationships, the free time spent with people of the same nationality, and the adequacy of financial resources, with an R-Square of 0.77.

There are two b coefficients that we are not able to interpret. One is the coefficient of the variable free time spent with people of the same nationality that is negative and, in this way, meaning that the academic satisfaction would decrease with the increase in the free time spent with those people and the other is the coefficient of the variable adequacy of financial resources that is positive. Both do not make sense.

The fact of all coefficients of determination being significantly higher than in the general model, may be explained by the fact that, here, the samples are smaller and more homogeneous.

By rank, the academic satisfaction of the O2s is "best" explained by the satisfaction with professors, the free time spent with people of the same nationality, the satisfaction with the school requirements, the student-professor relationships, and the satisfaction with the material covered in courses taken, with an R-Square of 0.87. Here, again, there are two b coefficients that we have difficulty in explaining. In the previous analysis, for Air Force people, the coefficient of the variable student-professor relationships was positive which means that the academic satisfaction would increase with the increase in the informality in those relationships. Here the coefficient for the same variable is negative which would mean exactly the opposite. Despite being possible it does not make much sense and this will hapen again in future analyses. The other is the coefficient of the variable free time spent with people of the same nationality that is also negative, the same as in the previous analysis, and for which we do not see a plausible interpretation.

For O3s, the "best" group of five predictors is: the satisfaction with the material covered in courses taken, the ability to write in English, the student-professor

relationships, the satisfaction with professors, and, for the first time, the free time spent with U.S. nationals, with an R-Square of 0.76. The model is also significant, as a whole, at the 0.0001 level, and all b coefficients are positive, except that of the variable student-professor relationships.

For 04s, the "best" group of five predictors is: the satisfaction with the material covered in courses taken, the satisfaction with professors, the career opportunities, the student-professor relationships, and the adequacy of financial resources, with an R-Square of 0.71. All b coefficients are positive, except that of the variable adequacy of financial resources, which makes sense.

Finally, for 05s, this group is made up of satisfaction with the material covered in courses taken, the free time spent with people of the same nationality, satisfaction with professors, satisfaction with the present housing arrangement, and the ability to speak in English, with an R-Square of 0.99. Here, again, there are two b coefficients wich we are not able to interpret, those of the variables satisfaction with professors and satisfaction with the present housing arrangement, which are negative and do not make sense. Again, the increase in the coefficients of the determination is due to the samples size, that are yet smaller that in the analysis by service (there are more groups), and to the greater homogeneity of the sample.

The sample of 06s is too small to be analyzed separately.

By field of study, for students from Administrative Sciences, the "best" group of five variables is: the satisfaction with the material covered in courses taken, ability to speak in English, the free time spent with people of the same nationality, the satisfaction with professors, and the ability to read in English, with an R-Square of 0.56. All

b coefficients are positive, and the model is significant, as a whole, at the 0.0265 level.

For students from Operations Analysis, the "best" group of predictors is: the satisfaction with the material covered in courses taken, the ability to speak in English, the free time spent with U.S. nationals, the satisfaction with professors, and the free time spent with people of the same nationality, with an R-Square of 0.99. All b coefficients are positive, and the model is significant, as a whole, at the 0.0003 level.

For students from Engineering, the "best" group of five variables is: the satisfaction with the material covered in courses taken, satisfaction with professors, free time spent with people of the same nationality, satisfaction with the present housing arrangement, and the ability to write in English, with an R-Square of 0.64. Again, the b coefficient of the variable free time spent with people of the same nationality is negative, and the model is significant, as a whole, at the 0.0001 level.

For the group of students from Meteorology, Oceanography, Hydrography, and Underwater Acoustics, the "best" group of five variables is: the satisfaction with the material covered in courses taken, the satisfaction with the present housing arrangement, the student-professor relationships, the adequacy of financial resources, and the satisfaction with school requirements, with an R-Square of 0.93. The model is significant, as a whole, at the 0.0006 level, and again, the b coefficient of the variable student-professor relationships is negative.

For the group of students from Computers, the "best" group of five predictors is: the satisfaction with professors, the satisfaction with the material covered in courses taken, the ability to read in English, the satisfaction with school requirements, and the adequacy of financial

resources, with an R-Square of 0.73. All b coefficients are positive, except that of the variable adequacy of financial resources, and the model is significant, as a whole, at the 0.0001 level.

Finally, for the group of students from Weapons/Physics, the "best" group of five variables is: the satisfaction with the material covered in courses taken, the student-professor relationships, for the first time the free time spent with people of other nationalities, the satisfaction with the present housing arrangement, and the satisfaction with school requirements, with an R-Square of 0.93. All b coefficients are positive, and the model is significant, as a whole, at the 0.06 level.

By geographic region, the analysis is limited to students from Asia and Europe, because the other groups are too small.

For students from Asia, the "best" group of five variables is: the satisfaction with the material covered in courses taken, the satisfaction with the present housing arrangement, the adequacy of financial resources, the free time spent with people of the same nationality, and the ability to listen to English, with an R-Square of 0.55. The model is significant, as a whole, at the 0.0001 level, and all b coefficients are positive, except that of the variable adequacy of financial resources.

Finally, for students from Europe, the "best" group of five predictors is: the satisfaction with the material covered in courses taken, the satisfaction with professors, the adequacy of financial resources, the free time spent with people of the same nationality, and the ability to write in English, with an R-Square of 0.78. The model is significant, as a whole, at the 0.0001 level, and all b coefficients are positive, except that of the variable adequacy of financial resources.

In conclusion, it can be said that the most strong predictor of academic satisfaction is the material covered in courses taken, which is completely normal and should be expected. This proves that learning is the major objective of coming to NPS. To accomplish this objective, students should be satisfied with professors, have a reasonable housing arrangement, and do not have money worries. The fact that the variable free time spent with people of the same nationality enters in almost all models, can be interpreted as a sense of mutual assistance and that the free time may be not so "free" as such.

3. General Satisfaction with NPS

a. Questionnaire A (Students)

(1) Regression Analysis.

Here, too, all possible regressions, R-Square and Stepwise techniques, were used as exploratory methods to choose variables for building a regression model. It was decided again, to choose the "best" group of five variables to explain the general satisfaction with NPS. These variables are: academic satisfaction, career opportunities, satisfaction with professors, satisfaction with the present housing arrangement, and the item maturity of the variable perceived accorded personal status.

Utilizing the GLM procedure for regression this group of predictors showed to be significant, as a whole, at the 0.0001 level with an R-Square of 0.41. When analized the contribution to the model of each variable, it was found that all were individually significant to the model, at least at the 0.05 level, except the last one, maturity, whose level of significance is slightly higher, but much below the 0.5 accepted by the program as a maximum. All b coefficients are positive, which means that general

satisfaction will increase with the increase in the satisfaction of the independent variables, which makes sense.

But here, too, significant differences were found when the regression was analyzed, separately, by service, rank, field of study, and geographic region.

By service, for Army people, the group of five variables which "best" explains general satisfaction with NPS is made up of academic satisfaction, the item personality (of the variable perceived accorded personal status), career opportunities, the free time spent with U.S. nationals, and the adequacy of financial resources. This model has an R-Square of 0.82, and is significant, as a whole, at the 0.0001 level. All b coefficients are positive, except that of the variable adequacy of financial resources.

For Navy people, this group is composed of academic satisfaction, satisfaction with the present housing arrangement, career opportunities, and the free time spent with people of the same nationality and with U.S. nationals, with an R-Square of 0.45. The model is significant, as a whole, at the 0.0001 level, and all b coefficients are positive.

For Air Force people, the group of "best" five is: career opportunities, the ability to read in English, adequacy of financial resources, and the items background and intelligence (of the variable perceived accorded personal status), with an R-Square of 0.75. The model is significant, as a whole, at the 0.0004 level, and there are two b coefficients for which we do not see an interpretation. The coefficients of the items background and intelligence are both negative, which do not make sense. For the first time the variable academic satisfaction did not enter into the model.

By rank, for the group of O2s, the "best" five predictors are: adequacy of financial resources, free time spent with U.S. nationals, satisfaction with the material covered in courses taken, career opportunities, and satisfaction with school requirements, with an R-Square of 0.88. The model is significant, as a whole, at the 0.0003 level, and all b coefficients are positive, except that of the variable adequacy of financial resources that is negative. Here, again, the variable academic satisfaction did not enter into the model.

For O3s, the group of "best" five predictors for general satisfaction with NPS is: academic satisfaction, satisfaction with professors, satisfaction with the present housing arrangement, and the free time spent with U.S. nationals and people of the same nationality. The model is significant, as a whole, at the 0.0001 level, all b coefficients are positive, and has an R-Square of 0.54.

For O4s, this model is composed of satisfaction with the present housing arrangement, the ability to read in English, academic satisfaction, the item background (of the variable perceived accorded personal status), and career opportunities, with an R-Square of 0.62. The model is significant, as a whole, at the 0.0001 level, and all b coefficients are positive.

Finally, for O5s, the group of "best" five predictors is: adequacy of financial resources, the item maturity (of the variable perceived accorded personal status), the free time spent with U.S. nationals and people of other nationalities, and academic satisfaction. The model is significant, as a whole, at the 0.0001 level, has an R-Square of 0.98, and all b coefficients are positive, except that of the variable adequacy of financial resources.

By field of study, for students from Administrative Sciences, the group of five "best" predictors for general satisfaction with NPS is: academic satisfaction, career opportunities, satisfaction with school requirements, the item intelligence (of the variable perceived accorded personal status), and the ability to read in English, with an R-Square of 0.76. The model is significant, as a whole, at the 0.0011 level, and all b coefficients are positive.

For students from Operations Analysis, the "best" group of predictors is: career opportunities, satisfaction with school requirements, the student-professor relationships, the satisfaction with the present housing arrangement, and the ability to speak in English, with an R-Square of 0.95. All b coefficients are positive, and the model is significant, as a whole, at the 0.003 level.

For the group of students from Engineering, the "best" five predictors for general satisfaction with NPS are: satisfaction with professors, the item background (of the variable perceived accorded personal status), the adequacy of financial resources, the free time spent with people of other nationalities, and the student-professor relationships, with an R-Square of 0.53. The model is significant, as a whole, at the 0.0007 level, and all b coefficients are positive, except that of the variable adequacy of financial resources.

For students from Oceanography, Hydrography, Meteorology, and Underwater Acoustics, this group of "best" five predictors is composed of academic satisfaction, the free time spent with people of the same nationality and U.S. nationals, the adequacy of financial resources, and the item academic performance (of the variable perceived accorded personal status). The model is significant, as a whole, at the 0.007 level, all b coefficients are positive, except that of the variable adequacy of financial resources, and has an R-Square of 0.93.

For the group of students from Computers, the "best" five predictors are: satisfaction with professors, the items personality and background (of the variable perceived accorded personal status), the ability to read in English, and the student-professor relationships. The model has an R-Square of 0.91, is significant, as a whole, at the 0.0001 level, and all b coefficients are positive.

Finally, for the group of students from Weapons/Physics, the "best" model is made up of only one variable--academic satisfaction--with an R-Square of 1.0. Since the sample is relatively small, by pure chance, all people answered to those questions (academic satisfaction and general satisfaction) in the same way, and with only one variable the model reached the R-Square of 1.0, no other variables meeting the 0.5 significance level for entry into the model.

By geographic region, this analysis is done only for Asian and European students, because the other samples are too small.

For students from Asia, the group of five "best" predictors for general satisfaction is: satisfaction with professors, academic satisfaction, adequacy of financial resources, free time spent with people of the same nationality, and the item background of the variable perceived accorded personal status. The model is significant, as a whole, at the 0.0001 level, all b coefficients are positive, except that of the variable adequacy of financial resources, and has an R-Square of 0.52.

For students from Europe, the "best" five predictors are: the items maturity, background, and academic performance (of the variable perceived accorded personal status), academic satisfaction, and satisfaction with professors. The model is significant, as a whole, at the

0.0004 level, all b coefficients are positive, and has an R-Square of 0.55. It is interesting the relatively high importance this model gives to the variable perceived accorded personal status. These variables are highly intercorrelated but not at the 0.8 level.

As seen, there are some deviations from the general model that tries to explain the overall satisfaction with NPS. The first variable to enter the general model was academic satisfaction and it was also the most common variable when general satisfaction with NPS was analyzed separately. This should be expected since the main objective in coming to NPS is to learn. But for learning and obtain the greatest amount of experience from their stay at NPS, students must be satisfied with their sojourn in the United States, more specifically, in Monterey. As seen along this study, on the whole, they are in fact satisfied with their stay in U.S., despite some problems that they may have faced or are facing. They think that their careers are going to be affected by their stay in Monterey, and this may work as a motivation for their hard work. In order to satisfactorily accomplish their task they need to have a reasonable housing arrangement and not have financial problems. This should be expected. Another fact that seems to have great importance in the general satisfaction with NPS is the way international students are seen by their fellow Americans. As said before, in a way, they are representatives of their countries while studying in the United States and, if the natural ambition of any student is to succeed, if one is an adult and responsible, when studying in a foreign country this pressure to succeed is, naturally, greater than for a national student.

(2) Factor Analysis.

The purpose in using factor analysis is to summarize the interrelationships among the variables in a concise but accurate manner as an aid in conceptualization. This is often achieved by including the maximum amount of information from the original variables in a few derived variables, or factors, as possible to keep the solution understandable. [Ref. 19]

As Kerlinger [Ref. 16] says, factor analysis serves the cause of scientific parsimony since it tells us what variables belong together--which ones virtually measure the same thing, in other words, and how much they do so.

Through the analysis made to this point, it was suspected that some variables would be measuring the same thing. So, it was decided that a factor analysis would be conducted to see if, in fact, those variables would cluster.

Using the FACTOR procedure [Ref. 15], which performs a variety of commom factor and component analysis and rotations, three distinct clusters were found. The first comprises the variables academic satisfaction, satisfaction with the material covered in courses taken, satisfaction with school requirements, and satisfaction with professors. This factor was called general academic satisfaction (coded as satscore for future use). The second comprises the group of variables related to English proficiency which was called language proficiency (coded as lanscore). Finally, the third comprises the group of variables related to perceived accorded personal status, which was called self-esteem (coded as estscore).

These scores were used in a multiple regression analysis with those variables that did not cluster to see if the model would vary in a perceptible way.

The variable satscore was the first to enter into the model with an R-Square of 0.31 (i. e., about 30 percent of the variance in general satisfaction with NPS is explained by the variance in this variable). The FORWARD procedure only accepted four variables, since no other variables met the 0.5 significance level for entry into the model. These four variables are: satscore (or general academic satisfaction), satisfaction with the present housing arrangement, career opportunities, and the free time spent with people of the same nationality, with an R-Square of 0.37. This model is significant, as a whole, at the 0.0001 level, and all b coefficients are positive. The R-Square lost four percent in relation to the original model, but the reliability and validity of the measures were increased since the problem of multicollinearity is no longer present. Nevertheless, this model is not far from the original one.

b. Questionnaire B (Graduates)

Using all possible regressions, R-Square and Stepwise techniques, as exploratory methods to choose variables for building the regression model, it was decided to choose four variables as the "best" group to explain the general satisfaction with NPS. The criterion to choose only four was based on the improvement in the R-Square, which from the fourth to the fifth variable was less than one percent. This "best" group of four predictors is: academic satisfaction, career opportunities, the ability to write in English, and the variable which is called usefulness of NPS studies (the first question of this questionnaire).

In using the GLM procedure for regression, it was found that this model is significant, as a whole, at the 0.0001 level, has an R-Square of 0.52, and all b coefficients are positive. The strongest predictor, academic

satisfaction, which alone has an R-Square of 0.46, is significant at the 0.0001 level; all the other variables met, at least, the 0.1 significance level.

Despite the difference between this questionnaire and questionnaire A, both general regression models have as the strongest predictor the variable academic satisfaction. In both, too, the variable career opportunities enters.

By service, the models for Army and Navy people are very much alike. Both have as the strongest predictor academic satisfaction. Moreover, both models include the variable usefulness of NPS studies and the ability to write in English. The Army model reflects the variable ability to speak in English and the Navy the variable ability to read in English. The great difference is in the R-Square. While for Army people it is 0.89, for Navy people it is only 0.54, but the difference is due to the different sample size (15 from the Army compared with 63 from the Navy).

The Air Force model, besides academic satisfaction and the ability to read in English, includes the variables career opportunities and the peers' receptivity to the adoption of innovations, with an R-Square of 0.77. This model is significant, as a whole, at the 0.0004 level, while the other two are at the 0.0001 level.

By rank, there are two significant deviations from the general model. For O3s, the model includes the variable adequacy of financial resources instead of the variable usefulness of NPS studies. For O6s, the model also includes this variable as well as the peers' and superiors' receptivity to the adoption of innovations, instead of academic satisfaction and career opportunities.

By field of study, the only significant deviation from the general model is, too, the inclusion of the variable adequacy of financial resources for Administrative

Sciences, Operations Analysis, and Computers graduates instead of the variable career opportunities.

By country region, in the two regions analyzed, Asia and Europe, the significant differences are the inclusion of the variable adequacy of financial resources instead of academic satisfaction for Asian graduates, and the peers' receptivity instead of career opportunities for European graduates. The model for Asian graduates has an R-Square of 0.65, is significant, as a whole, at the 0.0002 level, and all b coefficients are positive, except that of the variable adequacy of financial resources. The model for European graduates is significant, as a whole, at the 0.0001 level, has an R-Square of 0.64, and all b coefficients are positive.

Here, too, academic satisfaction and career opportunities are the big predictors for general satisfaction with NPS. Again, these models offer no surprises. However, it is interesting to note that the 06s' model, which does not include academic satisfaction and career opportunities as predictors, gives relatively high importance to the practical aspects of studies (such as the introduction of innovations). Of course, the latter implies that one must succeed academically in order to learn enough to introduce innovations, but academic satisfaction as an independent variable does not enter the model.

## V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

### A. SUMMARY

On the whole, both current and former students are academically satisfied with their stay at NPS, the percentages of satisfied people being 65.3 and 86.8, respectively.

In relation to one's ability in English, the areas where most current students perceived difficulties were speaking and writing, in this order, while for former students it was the opposite--writing followed by speaking. Both of these factors are very important if we take into account the tendency of professors to base grades, to varying degrees, on what is called "classroom participation", and the amount of exams, papers, projects, and at the last, the thesis, which are required from students. Eighty-five percent of the current students believe that problems with the English language influence their studies, compared with 73.4 percent of the former students.

Almost one out of two current international students claimed to have financial problems while attending NPS, compared with fewer than one out of six former students. It is noted that, in this study, there is no way to find out the cause of this discrepancy, though a possible reason could be the enormous strength of the American dollar in recent years (and a consequent weakness of foreign currencies). From those who reported financial problems, among the current students 66 percent feel it influences, to varying degrees, their studies, while for former students this percentage is around 42.

Both current and former students are very similar in the way they see their career opportunities after NPS. While

almost 63 percent of the current students think their stay at NPS will be to their advantage, 66 percent of the former students said that, in fact, it was to their advantage.

Thirty-seven percent of the current students are dissatisfied with their present housing arrangements, and almost 26 percent reported as the most difficult aspect of living in Monterey "finding housing"; around 23 percent listed "time for family", and 20 percent found as the most difficult "time for study."

Almost all former students apply, to varying degrees, what they learned at NPS in their present jobs.

On the whole, current and former students are satisfied with their stay at NPS, the percentages being 62.5 and 94, respectively. We said that the only interpretation for the huge difference in the way current and former students see the same question would be a matter of "time." We think that former students faced exactly the same kind of problems that current students do, but being free from the natural anxieties and pressures of the intense student's life, they have the natural tendency to forget the bad things and just remember the good ones.

Significant departures from all of these global percentages were noted when questions were analyzed separately by service, rank, field of study, and geographic region.

The academic satisfaction of current students is positively related to the material covered in courses taken, to the school requirements, to the satisfaction with professors, and to the general satisfaction with NPS. For former students, the academic satisfaction is positively related to the general satisfaction with NPS and more weakly to the usefulness of NPS studies.

The general satisfaction with NPS of current students is positively related to academic satisfaction, to the material covered in courses taken, to the satisfaction with

professors, and more weakly to the satisfaction with the present housing arrangements and career opportunities. For former students, it is strongly positively related to the academic satisfaction, and moderately weak to the usefulness of NPS studies and to the career opportunities.

The variables which "best" explain the general satisfaction with NPS for current students are: academic satisfaction, career opportunities, satisfaction with professors, satisfaction with the present housing arrangements, and the item "maturity" from the variable perceived personal status. For former students, this group of variables is composed of academic satisfaction, career opportunities, the ability to write in English, and the variable "usefulness of NPS studies."

Significant departures from all of these relationships and models were noted when analyzed separately by service, rank, field of study, and geographic region.

A Factor analysis was conducted with the current students' variables in order to summarize the interrelationships among them. It revealed three main clusters. The first is what is called "general academic satisfaction", composed of the variables academic satisfaction, satisfaction with the material covered in courses taken, satisfaction with school requirements, and satisfaction with professors. The second, called "language proficiency", is composed of the variables related to English proficiency (ability to speak, listen, write, and read in English). The third, called "self-esteem", is composed of the variables related to perceived accorded personal status (maturity, academic performance, intelligence, personality, and background).

## B. CONCLUSIONS

At the outset of this study, in the statement of the problem to be studied, five major research questions were posed. The answer to the first four are given here, in the conclusions. The answer to the fifth question is presented in the next section, recommendations.

1. The majority of current international students think their stay at NPS is going to influence to their advantage their future careers. The major reasons advanced for that were a better knowledge in the field, prestige and reputation, life stability due to long periods in the same job, and, in some cases, better chances for promotion. These feelings are confirmed by the actual experience of the graduates, whose percentages of responses and reasons are, basically, the same.

2. The time pressures of the U.S. system of higher education are (or were) felt in a high degree by international students. Some questions and comments written at the end of several questionnaires address this point. Most feel (felt) extremely rushed by the quarter system with its emphasis on papers, projects, and various examinations throughout the quarter culminating in a solid week of formally scheduled examinations, and in the last quarters, the thesis. In addition, international students have to adapt to a new culture, and all this while under strong pressure to succeed.

3. Despite the contrast that may exist mainly in technical fields between the United States and the countries represented at NPS, the utility of NPS courses to the present and future assignments of international students is evident. More than 88 percent of the graduates apply, to a relatively high extent, what they learned at NPS.

4. Despite some very real problems faced by international students while studying at NPS, such as financial, language, and housing problems, generally speaking, they are satisfied with their sojourn in the United States. They are pleased to have come to the United States to study, and they look forward to a more positive future because of their study in the United States. The NPS sojourn is almost always reported to have been a healthy, worthwhile, and positive experience for the graduates.

## C. RECOMMENDATIONS

### 1. To the School

Generally speaking, both current and former students are academically satisfied. However, the division between a student's academic and nonacademic life is simply not very real. The evidence indicates that joys or problems in one area tend to affect the other. For example, in some regression models, we found as predictors for academic satisfaction variables such as the satisfaction with the present housing arrangement or the free time spent with U.S. nationals. It is not known if the School can do much in the area related with housing arrangements, but this is one of the great concerns of international students.

Another area where the School could play a more important role, as suggested by several students, is the sending of a "welcome" package about NPS/Monterey, as early as possible, to the students appointed to attend courses at NPS. There is a relatively high percentage of students who reported financial problems. Of course, this is not an issue caused by the School, but the School should send to the individual countries updated information about the cost-of-living in that region of the United States. In order to do this, however, sponsoring countries must give names and

arrival dates to NPS with enough lead time to send welcome packets.

Another area for improvement relates to the association of international students with U.S. nationals. It is true that, as pointed out by several students, the International Education Office has done a very good job in bringing people together. It is also true that language problems prevent the development of meaningful relationships, and time pressures leave little time for international students to interact with others. Nevertheless, there is a generalized desire for more meaningful contact and relationships with U.S. nationals.

2. To Individual Countries

Thoughout this research three main points were retained as possible areas over which individual countries can do something when selecting and sending officers to NPS.

The first is related to language proficiency. As previously mentioned, English proficiency is, by far, the most important problem for an international student whose native tongue is not English. The great majority of current and former students considered that problems with the English language influenced, to varying degrees, their studies at NPS. Individual countries should take into consideration this point and provide officers selected to attend courses at NPS with as much knowledge of the English language as possible.

The second area for improvement here is related with the students' adequacy of financial resources. Almost one-half of the international students reported, to varying degrees, financial problems while studying at NPS. From those who reported these problems, a great percentage feel it influences, negatively, their studies. This is a very real problem for some students, and one in which they have

no control. The student's life is hard enough by itself, and they have enough problems to overcome. As one student wrote, "the money should be at a level which provides some specific standards for an officer." Individual countries should study this problem in a careful way, and provide their students with the minimum amount considered acceptable to support the high cost-of-living of this region of the United States.

The third area for improvement is related to "self-esteem." During this research, the variable self-esteem was seen to have great influence on several other variables, mainly academic satisfaction and general satisfaction with NPS. An individual with a high degree of self-esteem will probably cope with the adjustment to the new culture better than one with low self-esteem. This implies that the risk of dealing with culture shock is smaller, and the possibilities of success are greater. So, individual countries should take this factor into consideration when selecting officers to attend courses at NPS.

3. For Future Research

Any mailed survey has inherent limitations. Seldom is it possible to ask enough questions in the questionnaires to cover all aspects of a given subject, or to obtain replies from all the individuals contacted.

The first lesson learned is that people are chary of being identified. Any individual who is annoyed or inconvenienced by any question has the option of refusing to answer that question, and some did exactly that. However, it is believed that, if the individuals had been asked to identify their geographic region rather than their home country, the rate of response would have been greater. (This applies mainly to the survey of students).

As the factor analysis showed, in future research it may be wiser to find variables which are not highly inter-correlated to one another (for example, the language proficiency).

One variable that would be important to include is the Quality Point Rating (QPR). This may be thought of as a measure of productivity.

In future research it is felt that it would be useful to identify unobstrusive measures rather than to rely so heavily on reactive questionnaires. For example, one might find out who has returned to the United States as a tourist and see that as an indicator of positive regard.

Finally, in the future one might seek feedback from the reporting seniors to whom NPS graduates return and serve. Their level of satisfaction may strongly influence the future of international students coming to the United States and will certainly affect the future trust between allies.

# APPENDIX A
# COVER LETTERS

## Local Cover Letter

Dear Fellow Student,

To what extent are international students satisfied with their stay at NPS?

To answer this question, I am currently engaged in thesis research and to ensure proper analysis of the data, completed questionnaires are needed from all international officers with at least one quarter completed.

As far as I know, this is the first time that such a subject is being treated, and, with your precious cooperation, I sincerely hope that these data can be helpful in improving the graduate education of future international students.

All information you provide will be treated as confidential and will be used for statistical purposes only. Information will be released only in the form of statistical summaries or in a form which does not identify information about any particular person.

The information requested is largely self-explanatory. Please complete the accompanying questionnaire but do not sign it. Then detach it from this letter and return it in the pre-addressed envelope to SMC 2133. If it is more convenient, you may also return it to me through the International Education Office.

Any additional comments you may care to enclose will certainly be welcome.

If you have any questions, please fell free to contact me. My telephone number is 372-2790.

I shall appreciate your cooperation in the conduct of this survey by your returning the completed questionnaire before August 25.

Thank you very much for your assistance.

Overseas Cover Letter

Dear Fellow Officer

To what extent have international students been satisfied with their stay at NPS?

To answer this question, I am currently engaged in thesis research that, as you know, is an integral and important part of most graduate work.

The basic purpose of this survey is to gather objective data in order to measure the perceptions and reactions of international officers regarding NPS. As far as I know, it is the first time that this subject is being treated and I sincerely hope that these data can be helpful in improving the graduate education of future international students. However, it would be impossible to conduct this study without your precious cooperation.

All information you provide will be treated as confidential and will be used for statistical purposes only.

The information requested is largely self-explanatory. Please complete the accompanying questionnaire but do not sign it. Then detach it from this letter and return it in the pre-addressed envelope. Any additional comments you may care to enclose will certainly be welcome.

I must apologize but I couldn't find a viable way to stamp the return envelope. This survey is being sent to about 30 countries to people who graduate from NPS between 6 months and 10 years ago, and, unfortunately, I was unable to find a way of paying individual postage from each of the countries involved. So, I appeal to your kindness and sense of cooperation to stamp it appropriately and return it as soon as you can.

I shall appreciate your cooperation in the conduct of this survey by your returning the completed questionnaire before September 14.

Thank you very much for your assistance.

## APPENDIX B
## THE MOST/LEAST USEFUL COURSES

### STUDENTS

#### The Most Useful

(The numbers in parentheses represent the number of students who reported the same course)

AE 2045 - Fundamentals of Thermo Gasdynamics (2)
AE 4451 - Aircraft and Missile Propulsion
AE 4452 - Rocket and Missile Propulsion
CS 2811 - Fortran Programming (2)
CS 2813 - Pascal Programming
CS 3010 - Computing Devices and Systems
CS 3020 - Software Design (2)
CS 3111 - Fundamental Concepts of Programming Languages (3)
CS 3200 - Introduction to Computer Organization (2)
CS 3201 - Introduction to Computer Architecture
CS 3550 - Computers in Combat Systems
CS 3601 - Automata, Formal Languages and Computability
CS 4113 - Advanced Language Topics
CS 4300 - Data Base Systems
EE 2212 - Electronics Engineering II (3)
EE 3118 - Communications Systems (2)
EE 3400 - Introduction to Digital Signal Processing (2)
EE 3413 - Fundamentals of Automatic Crontrol
EE 3500 - Analysis and Random Signals (4)
EE 3600 - Electromagn. Rad., Scattering, and Propagation
EE 4550 - Digital Communications
GH 3906 - Hydrography Survey
IS 4183 - Applications of Database Manag. Systems (3)
IS 4185 - Computer-Based Management Information Systems (2)

MA 2025 - Logic, Sets, and Functions
MA 2042 - Linear Algebra (2)
MA 3026 - Discrete Mathematics and Automata Theory (2)
MA 3132 - Partial Diff. Equat. and Integ. Transforms(3)
MA 3400 - Mathematical Modeling Processes
ME 4160 - Applications of Heat Tranfer
ME 4161 - Conduction Heat Transfer
ME 4240 - Advanced Topics in Fluid Dynamics
MN 1501 - Communication Skills
MN 2155 - Accounting for Management
MN 3001 - Behavior Research Methodology
MN 3130 - Macroeconomic Theory
MN 4110 - Personnel Management Processes II
MN 4152 - Corporate Financial Management
MN 4160 - Financial Management Control Systems
MN 4162 - Cost Accounting (3)
MR 3230 - Tropospheric and Stratospheric Meteorology
MR 3235 - Tropospheric and Stratospheric Meteorology Lab.
MR 3321 - Air-Ocean Fluid Dynamics
MR 4322 - Dynamic Meteorology
MR 4323 - Numerical Air and Ocean Modeling
OA 3101 - Probability (2)
OA 3501 - Inventory I (4)
OA 4201 - Nonlinear and Dynamic Programming (2)
OA 4302 - Reliability and Weapons System Eff. Measurement
OA 4304 - Decision Theory
OA 4654 - Land Combat Models
OA 4704 - Manpower Planning
OC 3150 - Time Series
OC 3240 - Ocean Circulation
OC 3261 - Oceanic Factors in Underwater Sound (2)
OS 3006 - Operation Research for Management (6)
OS 3090 - Selected Topics in Management Science
OS 3103 - Probability and Statistics for Management (2)
OS 3105 - Statistical Analysis for Personnel Management (2)

OS 3603 - Simulation and War Game
OS 4301 - Reliability, Maintainability, and Safety Analysis of Weapons Systems
OS 4601 - Test and Evaluation
OS 4701 - Manpower and Personnel Models (4)
PH 0110 - Refresher Physics
PH 3352 - Electromagnetic Waves
PH 3452 - Underwater Acoustics (2)
PH 3951 - Quantum Mechanics
PH 4363 - Topics in Advanced Electricity Magnetism
PH 4952 - Sensors, Signals, and Systems

## The Least Useful

AE 3711 - Missile Flight Analysis
AS 3610 - Economic Analysis and Op. Research (3)
CS 3113 - Introduction to Compilers (2)
CS 3310 - Artificial Intelligence (2)
EE 2107 - Intr. to Electrical Engineering (4)
EE 2215 - Applied Electronics
EE 2401 - Description of Analog Sgnals
EE 2402 - Linear Systems
EE 2411 - Control Systems
EE 3431 - Principles of Radar Systems
EE 3800 - Microprocessor-Based System Design
EE 4416 - Advanced Topics in Modern Control
GH 4908 - Photogrammetry and Remote Sensing
IS 4182 - Information Systems Management
MA 1115 - Single Variable Calculus
MA 2047 - Linear Algebra and Vector Analysis
MA 3232 - Numerical Analysis
MA 4611 - Calculus of Variations
ME 3521 - Mechanical Vibration
ME 3611 - Mechanics of Solids II
ME 3721 - Marine Vehicle Design

MN 2031 - Economic Decision Making
MN 4106 - Manpower Personnel Policy Analysis
MR 3150 - Analysis of Air-Ocean Time Series
MR 3220 - Meteorological Analysis
MR 3420 - Atmospheric Thermodynamics
MS 3201 - Materials Science and Engineering
MS 3202 - Failure Analysis and Prevention
OA 2600 - Intr. to Operations Analysis (2)
OA 3401 - Human Factors in Systems Design (2)
OA 3601 - Combat Models and Games
OA 4306 - Stochastic Process I
OA 4702 - Cost Estimation (2)
OC 3130 - Mechanics of Fluids
OC 3230 - Oceanic Thermodynamics
OS 3001 - Op. Research for Computer Scientists
OS 3104 - Statistics for Science and Engineering
OS 3702 - Manpower Requirements Determination
PH 1041 - Review of Basic Physics
PH 2115 - Mechanics I - Particle Mechanics
PH 2551 - Thermodynamics (2)
PH 3152 - Mechanics II - Extended Systems (2)
PH 3161 - Fluid Dynamics (2)
PH 3321 - Radiating Systems (4)
PH 3461 - Explosivs and Explosions
PH 3651 - Atomic Physics

## Both, the Most and Least Useful

Depending on curricula, some courses are useful for some and are not for others. Because many students did not mention their curriculum, but just the area, it is impossible to tell for which curricula the courses are useful or not. The number of students to whom the courses are useful is preceded in parentheses by the letter M, and those to whom the courses are not useful is preceded by the letter L.

CS 2810 - Int. to Computer Science (M7,L1)
CS 2850 - PL/1 Programming Lab. (M1,L4)
CS 3300 - Data Structures (M2,L1)
CS 4112 - Computer Systems (M1,L1)
CS 4500 - Software Engineering (M1,L2)
EE 2810 - Digital Machines (M2,L4)
EE 2811 - Digital Logic Circuits (M1,L1)
EE 2812 - Logic Design and Microprocessors (M2,L2)
EE 4432 - Radar Systems (M3,L1)
MA 1116 - Multivariate Calculus (M1,L2)
MN 2106 - Organizational Systems I (M1,L5)
MN 2150 - Financial Accouting (M1,L4)
MN 3105 - Organizational Systems II (M2,L3)
MN 3111 - Personnel Manag. Processes I (M1,L2)
MN 3140 - Microeconomic Theory (M3,L2)
MN 3161 - Managerial Accounting (M5,L2)
MN 3372 - Material Logistics (M2,L1)
MN 4145 - Policy Analysis (M1,L1)
MN 4310 - Logistics Engineering (M2,L1).
OA 3103 - Statistics (M1,L1)
OA 3104 - Data Analysis (M3,L1)
OA 3201 - Linear Programming (M5,L1)
OA 3301 - Stochastic Models I (M2,L3)
OA 4202 - Networks Flows and Graphics (M2,L3)
OA 4301 - Stochastic Models II (M2,L1)
OS 3004 - Op. Research for Comp. Syst. Manag. (M2,L1)
OS 3604 - Decision and Data Analysis (M1,L1)
PH 3360 - Electromagnetic Wave Prop. (M1,L3)
PH 4400 - Advanced Acoustics Lab. (M1,L1)

GRADUATES

The Most Useful

AE 3501 - Project Management
AE 3701 - Missile Aerodynamics

AE 4273 - Aircraft Design (2)
AE 4318 - Aeroelasticity
AE 4342 - Advanced Control for Aerospace Systems
AE 4343 - Guided Weapon Control Systems
AE 4431 - Aerothermodynamics & Design of Turbomachines
AE 4451 - Rocket and Missile Propulsion
AE 4632 - Computer Methods in Aeronautics
AE 4702 - Missile Propulsion
AE 4703 - Missile Stability and Performance
AE 4704 - Missile Configuration and Design (2)
AS 4613 - Theory of Systems Analysis
CS 2811 - Fortran Programming
CS 3111 - Fundamental Concepts of Progr. Languages (2)
CS 3112 - Operating Systems (6)
CS 3300 - Data Stuctures (2)
CS 3502 - Computer Communication and Networks
CS 3550 - Computers in Combat Systems (3)
CS 4300 - Data Base Systems (2)
CS 4320 - Data Base System Design
EE 2003 - Communication Systems
EE 2215 - Applied Electronics (3)
EE 2810 - Digital Machines (3)
EE 3118 - Communication Systems
EE 3472 - Navigation, Missile and Avionics Systems (2)
EE 3500 - Analysis and Random Signals
EE 3510 - Communications Engineering
EE 3600 - Electromag. Radiat., Scattering and Propagat. (3)
EE 3910 - Topics in Electrical Engineering
EE 4411 - Digital Control Systems
EE 4432 - Radar Systems (5)
EE 4483 - Principles of Electronic Warfare (2)
EE 4560 - Communications ECCM (3)
EE 4572 - Decision and Estimation Theory
EE 4591 - Communication Satellite Systems Engineering
IS 4182 - Information Systems Management

IS 4200 - System Analysis and Design
MA 2025 - Logic, Sets and Functions
MA 3035 - Mathematical Introduction to Microprocessors
MA 3046/47 - Linear Algebra I-II
MA 3400 - Mathematical Modeling Processes
ME 2601 - Mechanics of Solids
ME 3150 - Heat Transfer
ME 3521 - Mechanical Vibration
ME 3711 - Design of Machine Elements
ME 4160 - Application to Heat Transfer
ME 4161 - Conduction Heat Transfer
ME 4162 - Convection Heat Transfer
ME 4613 - Finite Element Methods
ME 4731 - Engineering Design Optimization
MN 0810 - Thesis Research for Management Students
MN 2106 - Organizational Systems I (2)
MN 3114 - Organization Development I (2)
MN 3372 - Material Logistics (2)
MN 3760 - Manpower Economics
MN 3801 - Seminar in Technology
MN 4116 - Education and Training
MN 4123 - Organization Development II (2)
MN 4310 - Logistics Engineering (3)
MN 4376 - Seminar in Material Logistics
MS 3202 - Failure Analysis and Prevention
OA 3102 - Probability and Statistics (3)
OA 3103 - Statistics (4)
OA 3602 - Search Theory and Detection (3)
OA 4102 - Regression Models (2)
OA 4302 - Reliability and Weapon Systems
OA 4304 - Decision Theory
OA 4501 - Seminar in Supply Systems
OA 4701 - Econometrics
OS 3006 - Operations Research for Management (3)
OS 3101 - Statistical Analysis for Management

OS 3105 - Statistical Analysis for Personnel Management
OS 3302 - Introduction to Quality Assurance
OS 4701 - Manpower and Personnel Models
PH 2151 - Mechanics I - Particles Mechanics
PH 3952 - Electro-Optics
PH 4952 - Sensors, Signals and Systems

The Least Useful

AE 2811 - Aeronautical Laboratories I
CS 2106 - Introduction to Programming in FORTRAN
CS 3020 - Software Design
CS 3200 - Introduction to Computer Organization
CS 3310 - Artificial Intelligence
EE 2111 - Introduction to Avionics Communications (2)
EE 2621 - Introduction to Fields and Waves (4)
EE 2622 - Electromagnetic Engineering (2)
EE 3111 - Avionic Systems
EE 3400 - Introduction to Digital Signal Processing
EE 3413 - Fundamentals of Automatic Control
EE 3610 - Microwave Engineering
EE 3822 - System Applications of Computers
EE 4413 - Linear Optimal Estimation and Control (2)
EE 4483 - Principles of Electronic Warfare
EE 4485 - Electronic Warfare
EE 4900 - Special Topics in Electrical Engineering
IS 3183 - Management Information Systems
MA 1110 - Introd. to the TI-59 Programming Calculator (2)
MA 1115 - Single Variable Calculus
MA 2047 - Linear Algebra and Vector Analysis
MA 2110 - Multivariate Calculus
MA 2125 - Differential Equations (2)
MN 2031 - Economic Decision Making (2)
MN 2155 - Accounting for Management (2)
MN 3101 - Personnel Management and Labor Relations

MN 3111 - Personnel Management Processes I
MN 3130 - Macroeconomic Theory (2)
MN 3140 - Microeconomic Theory (2)
MN 3161 - Managerial Accounting (2)
MN 4105 - Management Policy (2)
MN 4127 - Selected Topics in Organization and Management
MN 4147 - Industrial Relations (2)
MN 4225 - Labor Law
OA 3401 - Human Factors in Systems Design I
OA 3501 - Inventory I (2)
OA 4301 - Stochastic Models II (3)
OA 4306 - Stochastic Processes I
OA 4307 - Stochastic Processes II
OA 4403 - Evaluation of Human Factors Data
OC 2120 - Survey of Oceanography
OC 4420 - Chemical Oceanogr. as Applied to Naval Op.
OC 4425 - Biological Oceanogr. as Applied to Naval Op. (2)
OS 3702 - Manpower Requirements Determination
PH 1011 - Basic Phisics I - Mechanics
PH 1012 - Basic Physics II - Electricity and Magnetism
PH 2241 - Modern Physics for Engineers (2)
PH 2265 - Geometrical Optics
PH 3152 - Mechanics II - Extended Systems
PH 3321 - Radiating Systems
PH 3951 - Quantum Mechanics
PH 4953 - Physics of the Satellite Environment

Both, the Most (M) and Least (L) Useful
CH 2404 - Thermodynamics and Physical Chemistry (M1,L2)
CS 2810 - Introduction to Computer Science (M3,L1)
CS 2813 - Pascal Programming (M1,L2)
CS 4500 - Software Engineering (M1,L1)
EE 2411 - Control Systems (M1,L1)
EE 2812 - Logic Design and Microprocessors (M2,L1)

EE 3800 - Microprocessor-Based System Design (M3,L3)
EE 4121 - Advanced Network Theory (M1,L1)
EE 4412 - Nonlinear Systems (M1,L1)
EE 4550 - Digital Communications (M4,L1)
MN 2150 - Financial Accounting (M1,L4)
MN 3105 - Organizational Systems II (M2,L2)
MN 3124 - Analysis of Bureaucracy(M1,L1)
MN 4145 - Policy Analysis (M3,L1)
OA 3101 - Probability (M3,L1)
OA 3201 - Linear Programming (M3,L1)
OA 3301 - Stochastic Models I (M1,L2)
OA 3302 - System Simulation (M1,L1)
OA 3402 - Human Factors in Systems Design II (M1,L3)
OS 3401 - Human Factors Engineering (M1,L1)
PH 3161 - Fluid Dynamics (M1,L1)
PH 3360 - Electromagnetic Wave Propagation (M1,L2)

The following courses are not reported in the Academic Year 1984 Catalog. Some have the same designation but with different numbers and it was opted to list them in the way they were listed by graduates.

The Most Useful

AE 3001 - Aircraft Energy Conservation
AE 4301 - Stability and Control of Aerospace Systems
CS 3204 - Data Communications
CS 3230 - Microcomputers
EE 2812 - Logic Design
EE 3500 - Stochastic Analysis of Signals (3)
EE 4560 - Communications ECCM
EE 4572 - Statistical Communication Theory
GH 3904 - Hydrography Measurement
OA 3201 - Linear Programming
OA 4101 - Design of Experiments
OA 4205 - Nonlinear Programming

OA 4401 - Manpower and Personnel Models
OA 4634 - Games and Strategy
OA 4651 - Search Theory and Detection (2)
OC 3220 - Physical Oceanography (3)
OC 3617 - Acoustic Forecasting
OC 3901 - Basic Oceanography
OC 4213 - Coastal Oceanography (2)
OC 4260 - Sound in the Sea
OC 4322 - Ocean Dynamics
OC 4906 - Geodesy
PH 2251 - Physical Optics and Introductory Modern Physics
PH 3451 - Fundamental Acoustics
PH 4453 - Radiation and Scattering of Waves in Fluids
PS 3301 - Probability
PS 4321 - Design of Experiments

The Least Useful

AS 3609 - Introduction to Mathematical Economics
CH 2001 - General Principles of Chemistry
CH 2401 - Chemical Thermodynamics
CH 3402 - Physical Chemistry in Ordenance Systems
CS 2600 - Introductory Computing and Computer Science for Operations Analysis
CT 2000 - Introduction to Computer Management
EE 2101 - Basic Circuit Theory
EE 2104 - Electrical Engineering Fundamentals
EE 4461 - Advanced Systems Engineering (2)
MA 2045 - Computational Matrix Algebra
MN 3170 - Defense Resource Allocation
MN 3183 - Management Information Systems
OA 2600 - Introduction to Operations Research (2)
OA 3657 - Human Factors in Systems Design I
OA 4604 - War Gaming Analysis
OC 3150 - Geographical Random Processes

OC 3321 - Marine Geophysics
OC 3323 - Geological Oceanography
OC 3420 - Biological Oceanography (2)
OC 3621 - Regional Military Oceanography
OC 4421 - Marine Ecology
OC 4422 - Marine Biodeterioration
OS 2103 - Introduction to Applied Probability for Systems Technology
PH 1011 - Basic Physics I - Mechanics
PH 1012 - Basic Physics II - Electricity and Magnetism

Both, the Most (M) and Least (L) Useful
OC 3322 - Principles of Geology (M1,L1)
OC 3909 - Hydrography Cruise (M1,L1)
PS 3302 - Probability and Statistics (M1,L1)

About twenty courses cannot be listed due to lack of precision.

## APPENDIX C
## PERSONAL COMMENTS

These comments appear in the form they were written by students and graduates at the end of the questionnaires.

### STUDENTS

- The grade mechanism differs between curricula. This has a negative effect on students.

- The money should be at a level which provides some specific standards for an officer.

- Professors seem mostly interested in their research work. That may be the reason why sometimes teaching is a little left behind.

- In some scientific courses too much emphasis is put in practical applications, sometimes disregarding the important theoretical basis (which seems to be essential in a master's degree).

- Wonderful work of the International Education Office.

- Taking four courses in a quarter is not productive because I do not have time to enter in depth into the material. We are fighting not to learn but to be prepared for exams.

- In some test material too much emphasis is put in memorization. In a master's degree course, the evaluation of student's progress should be mainly made by assigning personal projects/research.

- Some professors give such a workload as if one was taking only their own courses.

- Difficulties arise with what Americans consider to be English.

- The sponsor idea was good if it works. To function, however, it should focus on the international student's needs--not merely as a ticket punch for some U.S. students.

- The most difficult family problems have centered around the education of my teenage son. The U.S. school system has a somewhat different philosophy towards learning.

- A "welcome" package about NPS/Monterey should be sent a month or two in advance (this comment is made by several students).

- I arrived in Monterey three weaks before the start of the first quarter and would recommend that this is the minimum that is required to set up home before starting the course. Being an English speaker I did not encounter many of the problems faced by other international students.

- I, as a handicapped person in terms of language capabilities, always feel a lot of stress on my study.

- Academic curriculum schedule is too tight.

- The academic system of this school is the American style and since we are invited here we cannot blame it, because it is not primarily intended for international students. Anyway, the two points in academic issue I want to point out are: (1) the schedule is too tight and homework, projects, and papers methodology seem to me a kind of high school teaching with university's material. For a postgraduate school I would say this is not the way of teaching since the tight schedule does not allow us to learn. We just have

time for studying the material covered by professors' will; (2) the classification method based mainly on the normal distribution seems not to be the best method since the population of this school is not "normal" in the sense that people are much more motivated to study hard than in any other university, and the number of people in each class is not enough for using the normal distribution as an approximation for the distribution of grades. About other issues, than academic ones, I believe that the school should give more emphasis in supplying housing for international students since that problem is the one of concern for most students who have short money for living in the United States.

- I think international students need more help on housing problems (some advice about the laws, what is the mean level of the rents year by year, cooperation between the school and landlords). There is inadequate medical care for the students' families.

- Personally, I feel too much pressure here. Four courses during one quarter do not allow me to think about the subject, to understand deeply the material. An incredible amount of homework and projects. I do not have time to breathe.

- My biggest problem is with the time given for exams. Sometimes the questions need a lot of writing and exhausting calculations and I do not have time to express my ideas. All times it happen to me to have studied very hard, to know the stuff and not be able to answer all the questions. I personally lose 70 percent from this kind of exams what is very disappointing to me.

- I have nearly no time to spend in activities other than studying.

- My opinion of NPS is quite good--on the whole. The standards are good and the courses relevant. The only complaint I have is the amount of work expected of each student. The hectic pace very often leaves you little time to absorb the material.

- This is a very pleasant school.

- It wood be very useful to the new student to meet his sponsor in the begining and not after three or even more weeks later and usually after he has found car, house, and all immediate things he needs to start his life here.

- More society activities with Americans would help the international student to integrate the American society and make friends.

- Courses here are better interrelated than those I attended at my previous university.

- Housing arrangement could be better arranged through the school.

- The most difficult thing in this school is to understand the grade system. In my country with 70 percent I pass the course but here, for example, I had 92 percent and I got a B-. This is unbelievable!

- Too many courses in too little time. Too much pressure.

- The relative grade system is inadequate and unfair.

- More activities should be made with U.S. citizens; how about some technical books available in other languages: german, korean, french, etc..

- Truthfully speaking, the academic status of NPS is good. The credibility of professors is 60 percent good. The rest should be upgraded. Competition among students is unbalanced.

- I stayed at NPS 8 quarters, but the curriculum would require 10.

- In general, I consider myself lucky since I had the opportunity of studying at NPS, which I think is a very good learning center, where everybody can learn what he wants to learn, if he is willing to take advantage of NPS facilities.

- We should maintain contact with NPS after graduation. But with whom? The school should send us some information about present activities at NPS.

- A very tight schedule (all military schools like this). Serious problems due to shortage of money.

- Too frequent tests can reduce the benefit or value of the studies. The most common test method (multiple choice) requires a great deal of memorization and reduces verbal expression. The more advanced courses (higher credits) gave me better opportunities of expressing my knowledge and understanding of the topics.

- Very good and perfect courses which are very useful in my Navy. However, the curriculum is too tight and should be extended one or two quarters.

- My biggest problem after NPS was to be able to be a design engineer. I think the school gives too much theoretical knowledge but does not give the principles of an engineer in "design", "practical considerations", "analog circuit principles", etc..

- Some professors are too "arrogant" and have too much power in the sense that the student's opinion does not count.

- I am very satisfied with NPS; a very good experience; very good friends from all countries. It was very hard but useful.

- I think La Mesa remains closed for international students. What a pity, because we lose very much in not having interaction with Americans. International students should have more assistance from NPS, mainly in dealing with landlords. I felt a lack of assistance from the curricular officer in general orientations. I did not take courses that now I realize I would like to have taken.

- (1) Academic life: I found all administration personnel, professors, International Education Office members, and my colleagues very friendly and cooperative. Facilities and services are outstanding. I always felt free and in friendly environment. (2) Social life: I would like to express my appreciation to the International Education Office, sponsors, and all my friends for sharing a great experience in an international environment. Excluding some minor problems, there were good relations among students from all countries. I still have friends from U.S., Norway, Germany, Peru, Portugal, etc.. I think there are very few places for such an opportunity.

- Quarter system is brutal. Forty eight weeks of high pressure is too much in one year. The Education International Office provided some of the very best moments.

- (1) I would like to remark that although my wife and I both enjoyed our time in Monterey it was a lot of hard work. Although it was not difficult it was very consistent and required much effort to maintain a high standard. (2) I am

married but without children and so had a relatively unrestricted lifestyle in our little free time.

- My stay at NPS was wonderful but very hard. If I were younger I think it would be easier.

- It was a very good experience. I learned a lot.

- A remarkable school.

- I felt to a great extent the professor affects how good the course is. Generally, the courses were all good but in some cases were taught by totally inept, desinterested professors.

- It was an extraordinary experience to have the chance of living two years abroad. If this experience takes place in Monterey, at NPS, in contact with people from many countries, it is even better. Excellent facilities.

- The two main problems were: language (especially for wife and children) and the housing arrangement. We should have more contact with U.S. nationals.

- A copy of your thesis along with the school comments should be sent to every country authorities for consideration. (Why not for graduates, too?)

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